

# Manitoba Medical Review



Annual Meeting Manitoba Medical Association, Winnipeg, October 19, 20, 21

**Vol. 28**

**JULY, 1948**

**No. 7**

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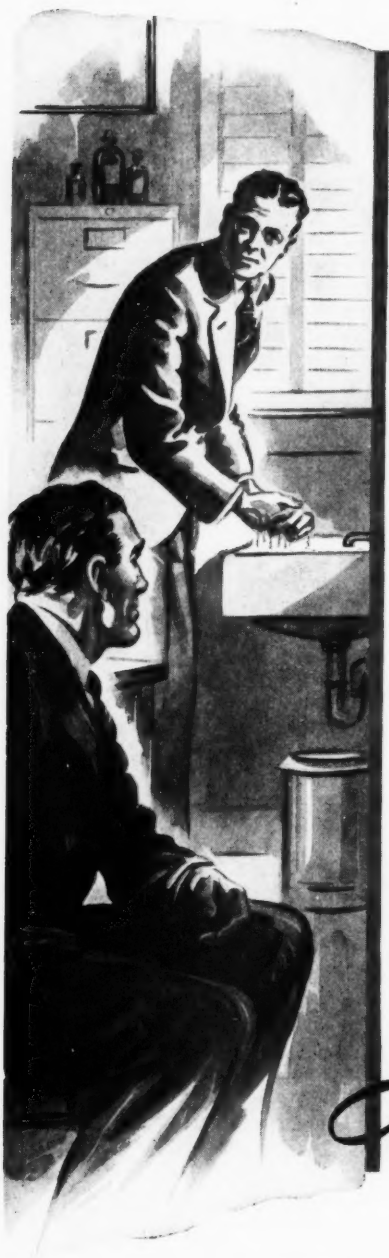
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## SURGERY

### A Consideration of the Problem of Post-Thrombophlebitic Eczema, Induration and Ulceration\*

R. O. Burrell, M.D., Ch.M., F.R.C.S. (Ed.),  
F.R.C.S. (C)

Many chronic ulcers of the lower leg which resemble and which, to the inexperienced eye appear to be varicose ulcers, fail to respond to, or actually progress, when treated by the usual means of combined ligation, injection and compression.

It is in the elucidation of this problem of failure, in an apparently simple therapeutic task, that we are concerned tonight. Literature on the subject is practically non-existent. The standard text-books do warn us that we should beware of ligation and injection in the face of a defective venous return as demonstrated by Perthes and other tests, but they fail to suggest a suitable treatment in the face of this eventuality.

To John Homans of Harvard must go the credit for pointing out that the almost inevitable sequelae of the chronic oedema of unresolved milk leg is the development of a syndrome which he has called "post-thrombophlebitic induration and ulceration." My interest in this subject was aroused in 1943 and 1944 by a series of failures in the treatment of ulcerations of this type. My remarks tonight, for the most part, are the result of gradual accumulated observations and experience plus the free use of my imagination.

**PATHOLOGY.** Chronic ulceration in the lower leg in the absence of repeated trauma or specific infection can only be due to defective nutrition. In the case of simple varicose veins the pathology of the defective nutrition is fairly obvious, depending only on simple venous stasis; but in post-thrombophlebitic ulceration and induration the defective nutrition depends on a combination of many factors.

In the beginning the patient had a lesion of the deep veins. This is most commonly a femoro-iliac thrombophlebitis or milk leg. It may, however, have been a so-called deep peripheral thrombophlebitis of the veins of the calf or even a quiet unrecognized phlebothrombosis whose only manifestation may have been a non-fatal embolus. It usually occurred during forced bed rest for some cause or other, or after application of a cast for a fractured leg. As a result of the thrombophlebitic process the

deep circulation is either permanently obstructed or becomes incompetent, or both of these effects may ensue. The sympathetic fibres in the vein wall are stimulated by the inflammatory reaction, and the collateral venous pathways are put into spasm; more effectively blocking the venous return and producing oedema of the extremity. As a result of the obstructed, incompetent deep venous circulation, and the spastic occluded collateral venous return, the superficial venous pathways are overloaded and in turn become dilated, tortuous and eventually varicose, giving rise to compensatory varicosities in the superficial venous system of the legs. Because of the occasional blocking or incompetence of the femoral vein at the sapheno-femoral juncture these compensatory varicosities are in effect collateral venous pathways. They therefore appear in bizarre locations for simple varicose veins. They are occasionally seen on the lateral aspect of the thigh or over the lower abdomen, etc. The resulting incompetence of the superficial venous circulation further adds to the oedema and stasis caused by the obstructed, incompetent and spastic deep venous pathways.

At the same time, and very likely as a result of the inflammatory reaction and peri-venitis, the lymphatic channels in the femoral canal are obstructed. This adds a lymphatic feature to the venous factor in the production of the oedema. That excision of the lymph nodes in the femoral canal will produce a firm oedema of the leg is recognized by anyone who has done block dissections of the groin.

We have now developed a picture of high-grade deep venous obstruction or incompetence with compensatory superficial varicosities, giving sufficient stasis to produce chronic oedema; and in addition have shown the possibility of lymphatic obstruction. This, alone, would be sufficient basis for the development of chronic ulceration, but there are other factors at operation which still further interfere with nutrition of the part.

Let us first consider the oedema, which is of a combined lymphatic and venous nature. The lymph of lymph-oedema is said to have a protein content considerably higher than that of blood. The chronic bathing of the subcutaneous tissues in this high protein content fluid results in their hypertrophy. The subcutaneous fat becomes thickened and fibrosed and the deep fascia, normally less than one-half a millimetre in thickness has been noted to be extremely dense; and on one occasion to measure four millimetres in thickness. This fibroplastic

\*Presented at the Brandon and District Medical Society Annual Meeting, June 17th, 1948.

effect of chronic oedema is offered as the explanation of the marked subcutaneous induration so characteristic of post-thrombophlebitis ulceration. As a result of this marked fibroplasia in the deep fascia and subcutaneous fat the arterioles supplying the overlying skin are to some extent occluded and, as in all scar tissue there is a tendency to devascularization. This adds to the ulcerative potentiality of the already diseased limb. It explains why leathery induration so commonly precedes ulceration.

There is one last factor in the production of post-thrombophlebitic ulceration which requires our attention. It is constantly observed that the limb in acute milk leg has a markedly decreased surface temperature, in fact the limb is usually quite pale but occasionally it is cyanosed. This cool pallor is due to arterial spasm and has led to the modern treatment by lumbar sympathetic block. Just how dramatic this spasm can be, was demonstrated in a 55-year-old man whom I saw in 1942. He came in from unorganized territory with a two-month history of painful swollen leg. On examination there was a diffuse oedema of the left leg with marked engorgement of the superficial veins and absent pulsations of all palpable arteries. The limb was cool to touch and there was a thrombosis of the saphenous vein from the sapheno-femoral junction distally, for about five centimetres. The femoral triangle was explored and on following the thrombosed saphenous vein down to the femoral vein it was found that this vein was also thrombosed and was surrounded by an oedematous mass of peri-venous tissue. The femoral artery could not be palpated at this stage. As the femoral vein was further dissected from its bed of inflamed peri-venous tissue, pulsations in the femoral artery became increasingly perceptible and after a two-inch segment of the useless femoral vein had been excised the pulsations were full and bounding and the leg returned to normal within three or four days. The cure must have resulted from the interruption of a reflex arc which produced spasm.

How persistent such arterial spasm of this, or lesser, nature can be, is unknown. Whether it is reflex in origin from the sympathetic twigs in the inflamed vein wall or whether it is due to a direct irritation of the peri-arterial sympathetic fibres by the associated peri-venitis is also unknown; but that it is commonly present in the limb affected by post-thrombophlebitic ulceration is borne out in the frequent observation of ipsilaterally diminished arterial pulsations.

We have now developed a pathological basis for the onset of chronic induration and ulceration and can summarize it as follows:

**SUMMARY OF PATHOLOGY.** Deep venous damage results in either obstruction or incompetence or both, and widespread venous spasm. This

leads to compensatory superficial varicosities of varying degree and the result is a high-grade venous stasis. The oedema produced by this stasis is enhanced by lymphatic obstruction, and the resulting fibroplasia tends to obstruct the arterioles and devascularize the skin and produce a chronic induration. In the meantime, the arterial supply has been decreased by spasm—small wonder that ulceration is so inevitable. To make matters worse, consider the fact, proven experimentally by Fontaine, and demonstrated so perfectly in Raynaud's disease, and in essential hypertension, that continuing arterial spasm regularly leads to endarteritis. Also keep in mind that the cold malnourished limb is commonly complicated by fungus infections of the feet which, together with the open infected ulcer, further damage the lymphatic drainage. I might say in passing that some author, whose name is forgotten, has given this factor of fungus infection a major etiological role in the development of the lymph-oedema of this disease.

**RECOGNITION.** This disease of post-thrombophlebitic induration and ulceration is invariably misdiagnosed as ulceration due to varicose veins, and as I have intimated before, its diagnosis and differentiation from varicose ulceration is neglected in text-books. Yet failure to make this differentiation will lead to harmful treatment. The disease seems to be relatively common. Being a surgeon, I see many patients with varicose veins, and having a known local interest in chronic leg ulceration, I see many ulcers of the leg and can sincerely say that, in my personal experience, chronic ulcer of the leg is many times more likely to be of this post-thrombophlebitic variety than a true varicose ulcer. How is the differentiation made? Age is a factor of considerable importance. True varicose veins being due in the main to a familial weakness in vein wall are usually well developed by the age of thirty, whereas dilated, tortuous superficial veins, appearing at a later age, are usually secondary compensatory varicosities, particularly if they are unilateral and accompanied by chronic oedema. These two points are important, as idiopathic varicosities are invariably bilateral and are not associated with chronic oedema, although in some advanced cases of simple varicose veins the limb may develop a mild ankle oedema at the end of a long day. The great induration of the subcutaneous tissues is quite characteristic of post-thrombophlebitic complications as is the occasional bizarre location of the veins, such as the upper, outer aspect of the thigh or the lower abdomen. Often the varicosities in such cases do not seem sufficiently extensive to account for the degree of ulceration, induration, and eczema, etc. Although the limbs of those affected by idiopathic varicose veins are usually cooler than normal, there is never any evidence of defective arterial pulsations. This is a common finding in

post-thrombophlebitic ulceration. Simple varicose ulceration is usually relatively painless whereas pain is a common feature in post-thrombophlebitic ulceration. Finally, there is the past history of thrombo-phlebitis. Most women are familiar with the clinical phenomena of milk leg; a few are not. In the search for this etiological factor all the varieties and possible manifestations of thrombophlebitis must be described to the patient in order to ascertain the possibility of their past occurrence. It is my opinion that phlebothrombosis, a disease whose only sign or symptom is the occurrence of pulmonary emboli can occasionally result in these post-thrombophlebitic complications. This fact may account for the failure to obtain a satisfactory history of old deep venous disease in some cases.

IN SUMMARY one can say that post-thrombophlebitic ulceration can be recognized and differentiated from varicose ulceration by the past history of a deep venous lesion or history of pulmonary emboli by the fact that the veins occur in an older age group as a rule, are unilateral, are in unusual locations and do not appear to be sufficiently advanced to account for the degree of ulceration. There is also greater subcutaneous induration, chronic oedema and diminished arterial pulsations. The leg is more often painful, and is cooler.

THE PREVENTION of post-thrombophlebitic induration and ulceration resolves itself first, into the prevention of thrombophlebitis or phlebothrombosis. Our consciousness of this possible complication of medical and surgical illness is ever increasing, and most modern physicians are sufficiently aware of its constant threat to have developed routines which they believe more or less effective in reducing its incidence. Further discussion on this point need not concern us tonight. On the other hand, such a serious complication, so resistant to treatment, as that under discussion forces our attention on the second preventative measure at our disposal. This is a consideration of the proper treatment of established thrombophlebitis. The majority of limbs affected by deep venous lesions of this nature resolve completely with no unfortunate sequelae. As far as I am aware there is no known method of selecting cases with a favourable prognosis. They must all, therefore, be treated alike. The pathological factors which result in leg complications and which are amenable to treatment have been mentioned previously. Their treatment demands the following therapy. The prevention of extension of the thrombotic process by the well controlled use of an anticoagulant such as heparin in Pitkin's menstruum or dicoumarol. The insistence on active and passive movements of the limb in order to encourage a rapid venous current which will in turn prevent propagation of the clot. The release of venous and arterial spasm by the use of papaverine, warmth,

sympathetic novocaine blockade and etamon, and the prevention of oedema by elevation and compression. The sequelae of unresolved thrombophlebitis are so serious that the disease must be treated with strict attention to every detail and with the greatest perseverance and patience. The individual must not be discharged from our care until all clinical evidence has disappeared and he can lead a normal existence and not develop oedema. This may require months of attention and even a longer period of elastic compression. It may still fail to prevent complications.

TREATMENT. Let us now consider the treatment of post-thrombophlebitic eczema, induration and ulceration. I repeat myself when I say that this whole subject has been strangely neglected, particularly in view of its relatively common occurrence. The treatment, however, is almost 100% virgin territory and the following statements are purely personal, more or less original, and constitute my present attitude which I believe to be a logical approach to a rather difficult therapeutic problem.

An extremely common error is to regard these patients as having simple varicose ulceration and therefore to inject the veins and apply the usual ambulatory compression therapy. Such an attack is usually of either no or very temporary value; but I have seen it do harm and on theoretical grounds it could be extremely harmful. It is my conviction that these veins should never be injected. The introduction of an irritant within a vein invariably leads to reflex vaso-spasm. In a limb in which vaso-spasm is one of the leading etiological factors in the production of disability, such injections are obviously unwise. On the other hand, there are a number of physicians who, through experience and care, recognize that this disease is not quite like the usual varicose ulceration. They demonstrate the inadequate deep circulation by Perthes or other tests and recognize, usually rather vaguely, that the superficial varicosities are compensatory in nature. On this basis these physicians believe they should be left alone. They often treat their patient by some compression routine which is usually too painful and is, in any case inadequate.

My suggested treatment is an attempted logical attack on all the pathological factors which result in this complication. This treatment is a complete routine, no part of which can be neglected.

First, relieve the oedema. This is done by full bed rest in Trendelenberg position with active and passive movements in this position. The patient is trained to apply elastic compression himself, using a tensor bandage, as frequently as is convenient but never to the point of producing pain or discomfort. These symptoms may indicate an increase in ischaemia due to excessive compression, and ischaemia is harmful. This routine reduc-

tion of oedema may take ten days to two weeks. In late cases it may be impossible to completely relieve the oedema by these measures. A high protein, salt free diet is occasionally of assistance. Since Shute and others suggested the use of alpha-tocopherol in intravascular thrombosis, I have lately given it to all patients in their recommended dose of 300 milligrams per day. I am not prepared to say whether it has added anything of value to the usual methods. It is an empiric straw grasped in desperation.

Meanwhile and secondly the incompetent superficial varicosities, which increase the venous stasis and consequent malnutrition of the part, must be treated, if they are of sufficient size to suggest that their cure will turn the tide in the patient's favour. This should only be done by multiple ligation or, if they are large, by excision. It must never be done by injection.

Thirdly and during the same period, every attempt should be made to cure the local infections which add to the lymphatic obstruction. I now use furacin dressings on the ulcer if infected and desenex ointment for the fungus lesions of the feet. Local treatment of the ulcer is kept at a minimum. The ulcer is due to reduced nutrition, not bacterial infection, and antisepsis will be injurious.

Fourthly, during this stage of reduction of the oedema, every attempt is made to reduce the vascular spasm, which in our discussion on the pathology of this condition, was shown to be such a potent factor in the disturbed nutrition of the part. This abolition of spasm, to me, means the unconditional cessation of smoking and avoidance of exposure to local or general chilling. The environmental temperature of the room must be high and long woollen socks must be worn in bed at all times. Directly applied heat is contraindicated in all peripheral vascular disease. Three drugs are used routinely in connection with this reduction of spasm; nicotinic acid injections of 100 milligrams three times a day; one ounce of alcohol three times a day; and one grain of papaverine intravenously twice a day. Reflex vaso-dilatation is encouraged by the immersion of the hands in hot water for one half an hour three times a day.

Fifthly, when the maximum reduction in oedema has occurred the patient is subjected to a lumbar sympathectomy. This operation is routinely indicated. I am convinced that vascular spasm plays a very significant role in the production of ulcers of this variety. There is no more certain, nor more permanent method, of abolishing vascular spasm. The chronically cool, pale or cyanosed foot immediately becomes warm, dry and pink. The previously resistant fungus infections usually respond to treatment. The peripheral pulsations, as a rule, return to normal and, most important of all, the oedema still further subsides, the

eczema disappears, and the ulcer heals. Everything possible has now been done by this closely followed routine to permanently cure the ulcer and we must therefore attend to the prevention of a recurrence.

Sixthly then, and on the third or fourth post-operative day, and before the patient has risen and while still in the Trendelenberg position, the patient is measured for a firm elastic stocking to accurately fit the reduced size of the limb from the toes to the knee. The patient is not allowed out of bed until the stocking is applied. It must be worn the rest of his or her life all the time they are out of bed. This prevents the recurrence of oedema. It also eliminates the stasis in the damaged superficial veins. Tight stockings applied to this normal sized, sympathectomized, extremity are not painful. Due to the anhydrosis resulting from the sympathectomy, they are easy to apply and are not particularly unpleasant to wear.

Seventhly, and to defeat the factor of continuing stasis in the deep venous circulation the patient is instructed that when they are standing, they must always keep moving, by marking time or walking. They must never stand still. They must take advantage of every opportunity to sit with the limb on a high foot stool or to lie down in the Trendelenberg position.

Eighthly they are advised that they must never smoke again and to as far as possible maintain a high environmental temperature. Their limbs must be kept warm and never subjected to chilling. Occasionally in serious cases, reflex vaso-dilatation by hand immersion in hot water, is suggested as a routine home treatment; and these serious cases are advised against swimming and told to take alcohol routinely.

The results of this more or less standard routine treatment have been very encouraging. It demands that the surgeon be experienced in the operation of lumbar sympathectomy. I feel that the modern muscle splitting extra-peritoneal incision devised by Felix Pearl some years ago, puts lumbar sympathectomy in exactly the same category as regards morbidity and mortality as an interval appendectomy.

To lose the feeling that lumbar sympathectomy is a difficult, serious and mutilating operation is almost a "sine qua non" of the successful handling of post-thrombophlebotic ulceration.

**CASE REPORTS.** The following are case reports illustrative of this presentation:

(1) A thirty-two year old male French Canadian fractured his left tibia in 1938. He was treated in a plaster cast. In 1940 he developed an ulcer on his left leg. During 1944 he was seen frequently at the varicose vein clinic in St. Boniface Hospital but treatment was unsuccessful. He had had many venous ligations and injections when I first saw



him in October, 1945. At this time he had three ulcers on his left leg. The original ulcer had never healed, the left leg was indurated and swollen and the dorsalis pedis pulse in this leg was absent. After the above mentioned routine treatment the ulcer healed before discharge and the dorsalis pedis pulse was judged normal by the third post-operative day. He was last seen in June, 1947, with an apparently normal leg and still wearing an elastic stocking.

(2) A thirty-eight year old female appeared in April, 1948, with a three year history of ulcer and oedema of her left leg. She had a milk leg following parturition in 1938 and a recurrence following a Caesarian section in 1943. She subsequently developed chronic oedema and varicosities in this leg. Her ulcer first appeared in 1945 following a saphenous ligation. Since August, 1947, the ulcer has refused to heal in spite of medical treatment directed at her varicose veins. Since her routine treatment under my care, which only required ten days, early in April this year, the ulcer has healed and the leg feels normal subjectively.

(3) I was consulted in January, 1948, by a big strapping thirty-four year old printer with a history of eczema, oedema and ulceration of the left leg for six years. In 1942 he had had a bilateral herniorrhaphy by one of our leading clinics. Following this he developed stiffness and swelling of his left leg. Between 1942 and 1947 he had recurrent painful ulcerations of the leg and developed an increasingly irritable eczema. During this period he had had multiple injections of varicose veins at the above mentioned clinic. When I saw him in January, 1948, he had not worked for two months. He had a large eight centimetre ulcer on the left lower leg with immense oedema of the whole leg and great induration and extensive eczema. Treatment was started February 1, 1948, and he returned to work before the end of the month. He has been fine since.

(4) In October, 1947, I was consulted by a forty-seven year old woman with a painful ulcer of the left lower leg which she had had since 1944. Her history is that in 1937 she developed a milk leg during her fifth and final pregnancy. Since then she had periodically experienced recurrent swelling of this leg with pain on walking. She gradually developed a permanently discoloured tender area on the medial aspect of the left lower leg. In 1944 this broke down and has not healed since, the pain has been constant and the foot was objectively cold with markedly diminished peripheral pulsations. She had been treated as a case of varicose veins with the usual lack of success. She entered the hospital October 19, 1947,

for the routine outlined above and was discharged November 1, 1947. She has been fine since.

Nine patients have been treated by this method in the past two and a half years. With the exception that they are all wearing elastic stockings the results have been uniformly excellent. While I realize that this is an early date to permit too great enthusiasm, it is a convincing improvement over my previous experience with cases of this type. During this period, three other patients were treated in this fashion with the exception that, for various reasons, sympathectomy was not done. The results in these cases have been inferior, in that repeated periods of bed rest and greater insistence on a more strict medical regime have been necessary to prevent recurrence of the ulceration.

I might point out that, in these twelve cases, eleven had their disease in the left leg. This substantiates the well known fact that, since the left common iliac vein is crossed and compressed by the right common iliac artery, thrombophlebitis is more common on the left side.

Finally, I would like to recount a recent experience which lays emphasis on the fact that even in the best of medical circles this disease is poorly understood. During the recent clinical examinations in surgery, I was given, as a case for use in quizzing the students, an elderly staff patient at one of our large hospitals with a large ulcer on the medial aspect of a swollen left leg. When the man was wheeled into the room and before the examinations had started, I asked the surgical resident of this particular hospital the nature of the case. He replied by saying:

"Oh, this is an old fellow who has attended our varicose vein clinic for years for the treatment of a varicose ulcer which refuses to heal."

When I asked the man to stand it was readily apparent that he had no varicose veins. The absence of this rather important etiological factor in varicose ulcer had failed to impress his physician with its real significance.

**IN SUMMARY AND CONCLUSION.** An attempt has been made to outline the probable pathology and to develop a method of recognizing an old but previously poorly delineated disease. A suggested eight-point routine of treatment based on this pathology has been given. It is emphasized that **all** parts, including sympathectomy, of this routine program of treatment, are important. While this may seem radical, it is apparent that the disease is disfiguring, disabling, and painful and other and previous methods of treatment have been far from perfect. It is only by the use of **all** agents suggested that one can expect a high percentage of cures. To date this eight-point routine treatment has yielded good results in a small series.

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1. Feinberg, S. M., Bernstein, T. B. (1947), Histamine Antagonists, VIII. N-( $\alpha$ -Pyridyl)-N'-( $\alpha$ -Thienyl)-N', N'-Dimethylethylenediamine, a New Antihistaminic Compound. Experimental and Clinical Experiences, J. Lab. & Clin. Med., 32:1370, November. 2. Feinberg, S. M. (1947), The Antihistaminic Drugs, Amer. J. Med., 3:560, November.

## CANCER

Edited by D. W. Penner, M.D.

### Cytologic Diagnosis of Cancer\*

#### A Preliminary Report

D. K. Merkeley, M.D.

D. W. Penner, M.D.

The examination of various normal and abnormal body fluids and secretions for tumor cells has received much publicity both in medical and lay writings in the last few years. Much of the recent literature has been extremely favorable. This method of examining for tumor cells is, however, over a hundred years old. One of the first reports was by Walshe<sup>1</sup> in 1843 where he attempted to recognize gross particles of tumor. Beale<sup>2</sup> in 1860 reported finding tumor in sputum, using stained and unstained preparations. Quinke<sup>3</sup> in 1875 reported on a series of ascitic fluids. There has been little, if any, improvement in the cytologic description given by Reider<sup>4</sup> in 1895 for criteria of tumor cells. He stated, "It is understood that the finding of numerous polymorphous, unequal, large, cells, especially when they have vacuoles and lie in clumps, speaks more for neoplastic than for mesothelial cells, but the diversity of form of the mesothelial cells in inflammatory processes in serous effusions is misleading." Technical advances almost identical to those used today were contributed by Bahrenberg<sup>5</sup> in 1895. Numerous reports between these dates and the present time appear in the literature. Some authors maintained that it was difficult to differentiate tumor from inflammatory cells. This includes the report of Stewart<sup>6</sup> in 1933, who contended that interpretation of pleural or peritoneal fluids contained numerous elements of danger. Dudgeon<sup>7</sup>, Tudor Edwards<sup>8</sup>, Gowar<sup>9</sup> and others reported more favourably on this method. In the examination of sputum for tumor cells the reported incidence varied from 1% in Holinger's series<sup>10</sup> to 94% in Wandall's series<sup>11</sup>. Many authors found the examination of bronchial secretions more reliable than sputum examinations. In the last few years Papanicolaou<sup>12, 13</sup> has done much to popularize the examination of vaginal smears for tumor cells. He has also reported on material from other sources.

In September, 1947, a study of the cytologic diagnosis of various materials for cancer was undertaken at the Winnipeg General Hospital. This series includes all materials except vaginal smears which is to be separately reported. Over half of the material was highly selective in so far as the patient was suspected of having a neo-

plasm, the remainder of the cases were from patients in whom no tumor was suspected. The method used was the wet smear and in most cases a paraffin block was made of the sediment. In most sputums three daily specimens were examined, three slides being made of each specimen, with a minimum of five minutes search under the microscope for tumor cells on each slide.

#### Summary of the Cases Examined

**Sputums:** Sputum was examined in a total of 65 cases, of which 20 were not suspected of having tumor. Of the remaining 45 cases neoplastic cells were found in the sputum in 7 cases. These included 5 cases of bronchogenic carcinoma. One of these cases already had a positive biopsy, another was subsequently proved by bronchoscopic biopsy and another by lymph node biopsy. In the remaining cases the examination was diagnostic but both were inoperable, one received deep x-ray therapy and the other came to autopsy. Of the 2 cases which were not bronchogenic carcinoma, one was a case of carcinoma of the stomach with metastasis to the lungs and the other was a case of unknown primary in the upper respiratory tract treated by x-ray therapy. Examination of sputum in 13 proved cases of bronchogenic carcinoma failed to reveal neoplastic cells. The cases were all inoperable.

**Aspirated Bronchial Secretions:** Bronchial secretions were examined in 66 cases, of which 34 were not suspected clinically of having a tumor. Of the remaining 32 cases a positive diagnosis of bronchogenic carcinoma was made in 9 cases. Lobectomy is to be considered in one case, the remaining were inoperable. Therapy in one consisted of the use of a radium bomb, three received deep x-ray and one came to autopsy and two received symptomatic treatment. A case of adenocystic carcinoma was included in this group, in which local removal was undertaken with a bronchoscope because of an exceedingly low vital capacity. 5 of these cases were accompanied by a positive bronchoscopic biopsy, in 2 cases the clot obtained from the aspirated secretion was better diagnostic material than the biopsy. In the remaining 4 the examination of the secretions was the sole means of diagnosis. In 2 cases the diagnosis by means of aspirated secretion was equivocal, one proved by biopsy (inoperable) and the other by autopsy. 5 cases of proved bronchogenic carcinoma failed to reveal neoplastic cells on examination of aspirated bronchial secretions.

**Pleural Fluids:** 37 cases of pleural effusions were examined, of which 15 were clinically as-

\*From the Department of Pathology, Winnipeg General Hospital.



sociated with malignancy. Neoplastic cells were identified in 8 cases. Diagnoses in the remaining 22 cases were tuberculous effusions, heart failure etc.

**Ascitic Fluids:** 26 cases of ascites were examined, of which 16 were clinically effusions associated with malignancy. In 9 cases neoplastic cells were identified. The remaining 10 cases were clinically diagnosed as cirrhosis, etc. The highest incidence of tumor cells was found in pleural and abdominal effusions.

**Miscellaneous:** 5 urines were examined with negative results, 2 from cases of carcinoma of the bladder. 6 cases of gastric washings were examined, including 2 cases in which a diagnosis of carcinoma was proved. Diagnosis in one case was first made by examination of a clot of the gastric washings. Esophageal washings were examined in 4 cases of carcinoma and a diagnosis was made by this means in 2 cases.

No false positive diagnoses were made in this series.

#### Summary

	Sputum	Bronchial Secretions	Pleural Fluid	Ascitic Fluid	Miscellaneous	Total
Total Cases	65	66	37	26	15	209
No tumor suspected clinically	20	34	22	10	—	—
Tumor cells found	7	9	8	9	3	36
Tumor cells not found in proven cancer cases	13	5	7	7	—	—
% positive in suspected cases	15.5%	28.1%	53.3%	50%	20%	—

## TUBERCULOSIS

### An Analysis of New Diagnoses of Tuberculosis in Manitoba During 1947

E. L. Ross, M.D.

Medical Director, Sanatorium Board of Manitoba

The preventive campaign, no matter how wide its scope and how varied its activities, is designed for one thing alone—to prevent the tubercle bacillus from getting into the bodies of uninfected persons. It follows then that sources of infection and potential sources of infection, in young or old, well or sick, must be recognized. For many years our search for new cases and sources of infection was confined to contacts and suspects. The greatest national case-finding demonstration was the routine chest filming of all attempting to join the armed services and by now we are all well into the mass survey era. Large sums of money and tremendous energy is being spent on surveys and

#### Comments

Based on our experience on the as yet small series of cases we are not overly enthusiastic about this method of diagnosis for unscreened cases, but in certain highly selective material it constitutes a valuable method of diagnosis. The method is, however, time consuming, expensive, requires highly trained personnel and technical help and since the positive take in unselected material is so small it would seem inadvisable to suggest that this method might be applied to a mass survey of any cross section of the population. (The cost of sputum examinations at one large clinic in the United States is \$30 per set of three sputums. Since the average positive, in already highly selected material, is 1 in 5, the cost for each positive diagnosis is at least \$150).

#### Conclusion

A preliminary report on the cytologic examination for tumor cells is presented. This method finds its chief value in highly selective cases.

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it is most pertinent now to determine the relative value of the various case-finding methods and agencies and to decide whether or not the continuation of our present survey programme is justified.

In Manitoba in 1947 there were 1,043 new diagnoses of tuberculosis among White people. In an attempt to evaluate case-finding methods, the 1,043 new cases were analyzed as to how they were diagnosed and at what stage of the disease.

Briefly, to give somewhat of a background I will mention the following points: This study includes only White people—that is, Indians are excluded. Manitoba has a population of 750,000, over one-third living in Greater Winnipeg. In 1947 there were 154 tuberculosis deaths (Whites), a rate of 21.9 per 100,000. We have 750 Sanatorium beds (Whites). In 1947 there were 1,043 new diagnoses of tuberculosis. During the year 276, 839 people had chest films at tuberculosis clinics,

260,298 of these on surveys. During the past three years the whole province has been covered by surveys and we will be well into the second round this year.

Although it is difficult to determine with accuracy the responsibility for new diagnosis, the cases were divided into two main groups, namely, (1) "Attributed to practising physicians" and (2) "Attributed to agencies other than practising physicians."

#### Tuberculosis Diagnoses, 1947 — Responsibility for Diagnosis

<b>Practising Physicians</b> .....	<b>273-26%</b>
Sent to stationary clinics because of symptoms	124
Sent to stationary clinics after diagnosis	44
Sent to Travelling clinics because of symptoms	23
Sent by physician directly to Sanatorium	42
Reported by communicable disease card	40
<b>Agencies other than practising physicians</b> .....	<b>770-74%</b>
Surveys	572
General Hospitals	24
Routine exams. Sanatoria, O.P.D. and Clinics	72
Referred by D.V.A.	26
Travelling Clinic routine exams	71
Referred by M.O.H.	5

We can be most certain about our decision regarding responsibility for diagnosis in the survey cases but less so in the new diagnoses attributed to practising physicians. In this analysis I think doctors in general practice may have been generously credited but the allocation made was as accurate as possible with the information available. We all see many patients with symptoms referred to clinics by doctors because the patient himself requested a chest film. In the future the source of diagnosis will be recorded for each new case at the time of diagnosis.

#### Tuberculosis Diagnoses, 1947 — Responsibility for Diagnosis

<b>Practising Physicians</b> .....	<b>273-26%</b>
Pulmonary Far Advanced	56-20.5%
Pulmonary Moderately Advanced	55-20.1%
Pulmonary Minimal	77-28.1%
Pleurisy with Effusion	43-15.8%
<b>Agencies other than practising physicians</b> .....	<b>770-74%</b>
Non-pulmonary Tuberculosis	42-15.5%
Pulmonary Far Advanced	31- 4%
Pulmonary Moderately Advanced	115-15.1%
Pulmonary Minimal	582-75.5%
Pleurisy with Effusion	25- 3.2%
Non-pulmonary Tuberculosis	17- 2.2%

Of the 1,043 new diagnoses you will note that 273 or 26% were credited to practising physicians and 770 or 74% to other agencies—that is, mainly surveys, travelling and stationary clinics. 572 or 74% of this latter group and 54.8% of the total new discoveries were made through surveys. A significant observation is that disease discovered by physicians has reached an advanced stage in 20.5%, while by surveys and clinics only 4% had progressed to that extent. In the physicians group

of new cases 28% had minimal disease, while among the clinic and survey patients lesions were minimal in 75%.

#### Tuberculosis Diagnoses, 1947 — Responsibility for Diagnosis

<b>Practising Physicians</b> .....	<b>273-26%</b>
Active Tuberculosis	238-86.8%
Inactive Tuberculosis	36-13.2%
Bacillary	70-25.6%
<b>Agencies other than practising physicians</b> .....	<b>770-74%</b>
Active Tuberculosis	307-39.8%
Inactive Tuberculosis	463-60.2%
Bacillary	49- 6.3%

Doctors found 86% with active disease compared to 40% diagnosed by clinics. Of significance from the preventive point of view is the fact that 25% diagnosed by their own doctor had positive sputum compared to 6% found by surveys and clinics. The above findings are no discredit to the private physician but indicate that by the time tuberculosis produces symptoms, the disease has progressed much farther than when discovered by the X-raying of apparently well people.

With present-day anti-tuberculosis programmes being highly organized, with treatment out of the general practitioners hands, with public health departments and governmental agencies being responsible for follow-up of known cases, and with the patient assuming less and less financial responsibility for his illness, the tendency for both the general practitioner himself and for those wholly engaged in anti-tuberculosis work is to underestimate the importance of the private physician. Although 37% of the population of Manitoba was X-rayed by surveys and clinics last year, 26% of the new diagnosis were made by patients going direct to their doctor, and this group contained a much higher proportion of active and infective cases. Of the new active cases reported in 1947, 43% were credited to practising physicians. The importance of the routine X-ray examination of patients going through doctors' offices was convincingly pointed out in a recent article by Dr. S. J. Shipman. Many years ago doctors were instructed in real and imaginary rales of various kinds and qualities, and symptoms and histories that might suggest tuberculosis. We need to revive this interest in the private physician and stress the importance of a chest X-ray as a routine part of his examination. Dr. Shipman points out that in the community he was considering, statistics suggest that about 30% of the general population during the year consult a doctor for some complaint. It is obvious how important the general practitioner can be in a case-finding programme.

Of the 260,298 X-rayed by surveys in 1947, 130 were found with active tuberculosis, which is 1 in 2,000 or .05%. 1 in 596 or .16% had inactive

disease. 1 in 460 or .21% had evidence of tuberculosis, either active or inactive. Practically all lesion cases, even if healed appearing, were advised further investigation, and this was carried out in 90%. Following is the classification of the new diagnoses made by surveys.

#### Surveys New Diagnoses — Whites

<b>Active Tuberculosis</b>	
Far Advanced .....	14-10.8%
Moderately Advanced .....	28-21.6%
Minimal .....	67-51.5%
Pleurisy with Effusion .....	5-3.8%
Primary .....	15-11.5%
Non-pulmonary .....	1-.8%
130	
<b>Of Active Tuberculosis</b>	
Far Advanced .....	3-.7%
Moderately Advanced .....	61-14.1%
Minimal .....	367-84.1%
Pleurisy with Effusion .....	5-1.1%

It is noted that 34 were found bacillary, which is 1 out of 7,655 surveyed. Of the new discoveries of active tuberculosis in the province, 24% were found by surveys, and I think in view of this that we can consider that this method of case-finding should be continued but at the same time keeping in mind that all our eggs should not be placed in the survey basket. As a matter of interest the cost (not including capital) per new discovery of active disease by mass survey was \$500.00 each. It may be that if and when this figure rises, say to two or three times this amount, the relative returns of case-finding methods from a financial point of view will warrant serious consideration. In assessing the value of surveys the educational effect throughout the province is no doubt an important factor in the anti-tuberculosis campaign.

#### Surveys

One in 2,000 found with active tuberculosis.

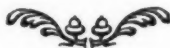
**Travelling Clinics** (Contacts and Suspects).

One in 73 found with active tuberculosis.

During the year, 6,084 were X-rayed by our travelling clinics. This group consisted mainly of known cases, contacts, suspects, and those referred by their doctor. As expected, the incidence of

tuberculosis in this selected group was much higher than in surveys. 1 in 57 or 1.7% had evidence of tuberculosis. 1 in 73 or 1.3% had active tuberculosis, compared to 1 in 2,000 discovered by surveys. Another feature accounting for a higher incidence on travelling and stationary clinics is their more frequent and continuous operation, whereas survey new cases are those existing at the one time, and usually only once in every two or three years. Surveys increase rather than diminish the need and value of stationary and travelling clinics because of the greater number requiring further investigation. With emphasis on surveys we may tend to overlook groups that have a higher than average incidence of tuberculosis, such as contacts. I know that in Manitoba our record of contact examinations is becoming unreliable. With 5,000 to 10,000 people X-rayed weekly it has been impossible to identify contacts, and for the present we have to presume that the contacts are being X-rayed by surveys.

This short paper is more in the nature of an analysis and statistical presentation covering only one year's new diagnoses of tuberculosis, so cannot form the basis for very conclusive opinions. It would seem, however, that for the time being we are justified in continuing survey programmes, but in so doing the more thorough, the more frequent and continuous operation of stationary and travelling clinics should not be neglected; indeed, they constitute a necessary part of surveys. An example of this just occurred. A moderately advanced lesion was found by survey in a young man. His two sisters, who were keeping house, did not attend the survey and were referred to a clinic as contacts. Both had active minimal lesions. Contacts are a fruitful source of new cases. The trend in the future should be to intensify routine chest filming of susceptible or high incidence population groups. The general practitioner can render a very important case-finding service. A more accurate record, at least in Manitoba, needs to be kept of the means responsible for diagnosis as this information can be of great value in determining future case-finding programmes.



## Medico-Historical

J. C. Hossack, M.D.

### The Alexandrians

What I have to say about Alexandrian Medicine will be preceded and interrupted by references to the reigns of those great kings, the first three Ptolemies, who were so responsible for the establishment and maintenance of schools, and for the development of scholarship, in Egypt.

It will be recalled that Alexander the Great wrested Egypt from its Persian rulers in 333 B.C. As the result of a dream he founded upon the coast, near the Island of Pharos, a new city to which he gave his name. Almost immediately afterwards he set out to conquer the East and nine years later lay dead in Babylon. His vast empire was under the nominal rule of his weak-minded 'half-brother, Philip Aretaeus, with Perdiccas, his senior general, as regent. The other generals were given the governorships of the various provinces which they were to hold for the new king. Egypt was entrusted to the care of Ptolemy—a man of great genius both as an administrator and as a military commander. Also he was ambitious and, seeing that the empire might not endure, he determined to make Egypt his kingdom. His right to such a dominion was capable of being established on personal grounds, for his mother was at one time the mistress of Philip of Macedonia, father of Alexander. It is therefore quite possible that Ptolemy and Alexander were half-brothers.

Early in his governorship Ptolemy extended his dominion by the annexation of Cyrenaica. This region was at the time ravaged by civil war and Ptolemy was asked to intervene. Cyrene was then a town of 100,000 people, and was famous in medical annals. Herodotus speaks of Cyrene and Rhodes as two of the great medical schools of his time. Even before the time of Hippocrates obstetrics and gynecology were taught there and it was in contact with the Greek School of Crotona which flourished between 580 and 430, so that the Cyrenians were contemporary with, or successors to, the great Crotonese—Pythagoras, Alcamaeon, Democedes and Empedocles.

Ptolemy kept his ambitions to himself but the suspicious mind of Perdiccas was quick to realise what was afoot, especially when he found that an arrangement, to which he was not privy, had been made between Ptolemy and Philip for the removal of Alexander's body to Egypt. Perdiccas accused Ptolemy of attempting to disrupt the empire, but the Council of Generals refused to take part in a punitive expedition against Egypt and Perdiccas was left to wage his own war.

Perdiccas had at his disposal Alexander's army

of veteran world-conquerors. He had also large numbers of cavalry and elephants, and a great fleet carried his supplies. Ptolemy had no such forces but he quickly put the out-post of Pelusium in a state of defence. In the dress of an ordinary soldier he mingled with his men upon the battlements. With his own hand the king plunged his long macedonian lance into the eyes of the storming elephants. Blinded and in agony the great beasts became unmanageable. They trampled upon the besiegers and this, together with the skillful and determined defence, compelled Perdiccas to withdraw his forces as night fell.

Perdiccas next tried, under cover of darkness, to ford the river which however was abnormally high. The great weight of the elephants and men lowered the river bed while Ptolemy's engineers, by closing the mouths of the canals, caused the flood to rise still higher. As a result dawn rose upon a completely shattered and disorganized army. Its remaining leaders accused, threatened and finally slew Perdiccas, and then awaited in despair for a new and final attack.

When Ptolemy arrived he was accompanied by an army loaded, not with weapons, but with food and supplies for the beaten army. His men busied themselves rescuing those who were in the water or lying exhausted upon the banks. The generosity of Ptolemy moved his former enemies. When comrades in arms he had been their idol. Now that Perdiccas was dead, why not, they said, have Ptolemy for Regent? But Ptolemy realised that to refuse the honour would increase his strength while his apparent unselfishness would increase his reputation. He suggested that two generals, whom he named, should rule as co-regents and thus he saved his kingdom, weakened his foes and won powerful friends.

The tact which Ptolemy displayed towards his enemies was equalled by the wisdom he showed in his government of the Egyptians. The people over whom he ruled had been a conquered race for more than two centuries ever since Cambyes, the half-mad son of Cyrus, had brought them defeat and slavery. Psamtek was then Pharaoh, a young untried man whose native army was small and weak and whose Greek mercenaries were not strong. One of these mercenaries was Phanes of Halicarnassus. Years later another citizen of Halicarnassus—Herodotus—told the story of Phanes and the fall of Egypt.

"The Persians crossed the desert, and, pitching their camp close to the Egyptians, made ready for battle. Hereupon the mercenaries in the pay of Psammenitus, who were Greeks and Carians, full of anger against Phanes for having brought a



foreign army upon Egypt, bethought themselves of a mode whereby they might be revenged on him. Phanes had left sons in Egypt. The mercenaries took these, and leading them to the camp, displayed them before the eyes of their father; after which they brought out a bowl and, placing it in the space between the two hosts, they led the sons of Phanes, one by one, to the vessel, and slew them over it. When the last was dead, water and wine were poured into the bowl, and all the soldiers tasted of the blood, and so they went to battle. Stubborn was the fight which followed, and it was not until vast numbers had been slain upon both sides, that the Egyptians turned and fled."

Psamtek was captured. He was set where he could see his daughter led forth to shame, his son to slaughter, his friends to slavery. The Persians demanded the lives of ten noble Egyptians for every Mitylenian who had been slain. They broke into the tomb of Amasis and burnt his mummy. They raped and slew and pillaged. They desecrated the temples, defaced the statues and, with his own hand, Cambyses wounded the sacred bull Apis worshipped by the Egyptians as a god. Such was the fate of Egypt under Persian rule.

When Alexander defeated Darius in 333 he was welcomed. The priests persuaded him to believe that he was the son of Ra and he was thus won to deal gently with a people willing to accept him as the son of their god and so a god himself. Still gentler was the rule of Ptolemy. He repaired the ancient temples and built new ones. He left the priests in full authority in matters of religion. When the Apis of the day died of old age he spent the equivalent of 50,000 dollars upon its funeral. Macedonians and Egyptians lived in peace, the Egyptians in their own cities and the Macedonians in theirs. The garrison troops were thus kept out of sight, as it were, and the Egyptians were not humiliated by the constant presence of foreign soldiers.

No attempt was made to fuse the two races; the Macedonians ruled; the natives had no voice in government. The offspring of mixed marriages were classed as Egyptians and had no privileges. The literature and writings of the ancient Egyptians were of no interest to the Macedonians. The secret of the hieroglyphics, well known to many in the time of Ptolemy, was lost for centuries because none of his scholars thought it important enough to record.

Ptolemy waged many wars, his chief enemy being Antigonus, king of Syria. Particularly galling to Antigonus was the attitude of the Rhodians whose island was so close to his own shores but who were consistently friendly with Ptolemy in all his wars. Antigonus determined to punish them and sent against them 200 long galleys and 170 transports, with more than 40,000 troops,

under the command of his son Demetrius. From earliest times Rhodes had held a high place among the states of Greece, in art, medicine, sculpture, letters and commerce. Its maritime laws were so good that many states adopted them and, being afterwards incorporated into the pandects of Justinian, became part of the laws of modern Europe. The whole Greek world looked on with deep interest as time and again the veterans of Antigonus were thrown back from the walls of the blockaded city by citizens who, while their homes were burning and their walls crumbling under the battering ram, left the statues of Antigonus and Demetrius unharmed in the market place, saved by a love of art and the remembrance of past favours.

The galleys of Ptolemy were not able to drive off the superior navy of Antigonus but daring sorties succeeded in bringing food and other supplies to the beleaguered garrison. The siege continued for a year at great cost to the attackers and still the island remained unbreached: At last Antigonus raised the siege and the Rhodians, attributing their successful defense to the aid supplied by Ptolemy, hailed him as Soter or Saviour, a designation that he ever afterwards kept.

The island of Cos is also connected with the name of Ptolemy. The birthplace of Hippocrates, Praxagoras and Erasistratus, the home of a great medical guild, Cos was a fortress to which, in times of danger the Ptolemies were wont to remove their treasure and their persons. Here was born the second Ptolemy and here was the centre of silk manufacture.

The rank of an Egyptian lady could be guessed by the thinness of her raiment. The Coans manufactured a tissue of such fineness that nothing was left to an observer's imagination when he saw it, if he could see it, worn. It had a huge sale in the Ancient World and was a source of great wealth to the Island.

Ptolemy Soter ruled for 40 years and died at the age of 84. His character was superior to that of his contemporaries. In an age of treachery he kept his engagements. In an age of bloodshed and violence, he spilt no blood unless his own safety and that of his kingdom was at stake. He was simple, preferring the life of the camp to the pomp of the court. He was brave, never shrinking from personal danger. He was scholarly and enjoyed the friendship, supplied the needs, encouraged the efforts and attracted the presence of scholars. He was generous, often releasing his prisoners without ransom. His palace and his purse were at the disposal of all who followed letters or science.

His name can still be seen upon temples and ancient monuments, but it is by buildings of which no stone can now be found that he lives in fame. The Museum, the Library, the Serapion have van-

ished but the learning that was born and nourished there by his solicitude and enthusiasm still live. The Museum (the house of the Muses) was a cloister connected with, and adjacent to, the royal palace. It was a College of Professors supported by the King. It was a University that drew to it 14,000 eager students from every land and of all nations. And no wonder. There was Euclid, demonstrating his problems in sand, paper being costly to use. And there also was Erastothenes who measured the diameter of the earth and came within 50 miles of the correct answer 1,800 years before Magellan proved that the earth was round. Apollonius, also, who wrote on conic sections and furnished geometrical information that became useful only 2,000 years later. Then there was the ingenious Hero who made the first steam engine, and the first penny-in-the-slot machine, mechanical dogs that drank, serpents that hissed, birds that sang, and for the doctors, syringes which were the forerunners of those we use today.

There were many others equally famous then and now. The names of Hipparchus, Theocritus the Sicilian poet, Rufus of Ephesus, Soranus of Ephesus, Appelles, Plato, Archimedes, Aristophanes, Paulus Aegineta and Galen. Not all of them at the same time, but all of them at some time, influenced or were influenced by, Alexandria. Near to the Museum stood the Library which eventually held 700,000 volumes. Ptolemy Sotor and the Athenian Demetrius Phalereus built and furnished it. Every known work was represented there—Chaldean, Ethiopian, Persian, Hebrew but chiefly Greek. The third Ptolemy increased its contents by taking from visitors to Egypt any books they had. These he had copied and then he gave the owner not the original but the copy.

From what I have said you can realize the stimulus given to learning by Ptolemy Sotor and you can understand how all branches of scholarship flourished during his beneficent reign. Such, then, were the auspices under which the great doctors Herophilus and Erasistratus took up residence in Alexandria.

The greatest names in pre-Alexandrian medicine were Aristotle, who was not a physician, and Hippocrates. Another, almost as great, was Diocles of Carystus. The second Hippocrates he was called. He was the first to write on Anatomy basing his observations chiefly upon animals. He differentiated between pleurisy and pneumonia (without a stethoscope at that), and between dropsies associated with the liver and with the spleen. Aristotle had placed intelligence in the heart, leaving to the brain the role of blood-cooler. Diocles regarded intelligence as a function of the brain and, in spite of their post-mortem emptiness, said that in part at least, the arteries held blood.

Among the pupils of Diocles was Praxagoras of Cos, who was an anatomist but who also was the

first to recognise the importance of the pulse in disease. This Praxagoras was the teacher of Herophilus who was the first to measure the pulse rate which he did by means of a water-clock. Herophilus also first described the dicrotic pulse which he called the "goat-pulse", the analogy being in the way a goat rises—first a great heave of the hind legs followed by a lesser one of the fore limbs. Herophilus has been called the father of anatomy, not because he was the first anatomist or even the first to write upon the subject but because he was the first to study the body scientifically. He did a great deal of dissecting chiefly upon the dead but, we are told, condemned criminals were vivisected also. Dissection was not offensive to a people who all came under the knife when they were dead. Herophilus was a graduate of Cos and therefore brought to Alexandria the Coan tradition.

Contemporary with Herophilus was Erasistratus of Iulis, a pupil of Chryssipus and a graduate of Cnidus. He came to the notice of Ptolemy as the result of a startling diagnosis in the case of Antiochus, the son of Ptolemy's old friend Seleucus. Let us hear the story from the lips of Plutarch.

"For Antiochus, it appears, had fallen passionately in love with Stratonice, the young queen, who had already made Seleucus the father of a son. He struggled very hard with the beginning of this passion, and at last, resolving with himself that his desires were wholly unlawful, his malady past all cure, and his powers of reason too feeble to act, he determined on death, and thought to bring his life slowly to extinction by neglecting his person and refusing nourishment, under the pretence of being ill. Erasistratus, the physician who attended him, quickly perceived that love was his distemper, but the difficulty was to discover the object. He therefore waited continually in his chamber, and when any of the beauties of the court made their visit to the sick prince, he observed the emotions and alterations in the countenance of Antiochus, and watched for the changes which he knew to be indicative of the inward passions and inclinations of the soul. He took notice that the presence of other women produced no effect upon him; but when Stratonice came, as she often did, alone, or in company with Seleucus, to see him, he observed in him all Sappho's famous symptoms—his voice faltered, his face flushed up, his eyes glanced stealthily, a sudden sweat broke out on his skin, the beatings of his heart were irregular and violent, and, unable to support the excess of his passion, he would sink into a state of faintness, prostration and pallor.

"Erasistratus, reasoning upon these symptoms, and, upon the probabilities of things, considering that the king's son would hardly, if the object

of his passion had been any other, have persisted to death rather than reveal it, felt, however, the difficulty of making a discovery of this nature to Seleucus. But, trusting to the tenderness of Seleucus for the young man, he put on all the assurances he could, and at last, on some opportunity spoke out and told him the malady was love, a love impossible to gratify or relieve. The king was extremely surprised and asked, 'Why impossible to relieve?' 'The fact is,' replied Erasistratus, 'he is in love with my wife.' 'How!' said Seleucus, 'and will our friend Erasistratus refuse to bestow his wife upon my son and only successor when there is no other way to save his life?' 'You,' replied Erasistratus, 'who are his father, would not so do, if he were in love with Stratonice.' 'Ah, my friend,' answered Seleucus, 'would to heaven any means, human or divine, could convert his present passion to that; it would be well for me to part not only with Stratonice, but with my empire, to save Antiochus.' This he said with the greatest passion, shedding tears as he spoke; upon which Erasistratus, taking him by the hand, replied, 'In that case, you have no need of Erasistratus; for you, who are the husband, the father, and the king, are the proper physician for your own family.' Seleucus, accordingly, summoning a general assembly of the people, declared to them, that he had resolved to make Antiochus king, and Stratonice queen, of all the provinces of Upper Asia, uniting them in marriage; telling them, that he thought he had sufficient power over the prince's will that he should find in him no repugnance to obey his commands; and for Stratonice, he hoped all his friends would endeavour to make her sensible, if she should manifest any reluctance to such a marriage, that she ought to esteem those things just and honorable which had been determined upon by the king as necessary to the general good. In this manner, we are told, was brought about the marriage of Antiochus and Stratonice."

In Alexandria, then, we find the two most prominent exponents of the two great schools of medical thought and practice. The school of Cos, represented by Herophilus, stressed the importance of the patient—his general state, the equipose of his functions, his external environment of climate and natural surroundings and the healing power of nature. The school of Cnidus, on the other hand, looked upon disease as a local process. To Erasistratus the organ was more important than the patient. The division between the two schools was not unlike the present day situation where medicine is more and more stressing with local manifestations in an organ or tissue. In the time of Herodotus, Egyptian doctors were super-specialists. Not only were there doctors for the eye and for the nose but for each eye and each nostril. Herophilus and Erasistratus worked

in larger fields being interested in all branches, both scientific and practical, of their profession. Both investigated the nervous system. Herophilus spoke of voluntary and involuntary nerves, the latter stretching from bone to bone obviously being tendons. Erasistratus also erred in this way but nerves proper he divided into motor and sensory. Herophilus described the meninges, the calamus scriptorius, the tela choroidea and the venous sinuses. He gave the name "torcular" to the site of venous union and we remember him by the association of his name with the torcular. He described the fourth ventricle and named it the seat of the soul. Erasistratus also described the brain and designated it the seat of reason. Disorders of reason were, he said, due to disturbance of its functions. Aristotle's idea, that the brain was chiefly, a radiator where blood is cooled, he rejected, and with it Aristotle's other idea that the brain's other function was to secrete pituita.

To Herophilus belongs the credit of first describing the os hyoides, the vitreous humor, the choroid and the retina. He described the liver and gall bladder. He examined the duodenum, found it measured 12 fingers-width and so gave it its name. His observations on chyle and lymph remained unamplified for 20 centuries. He called the pulmonary artery the vena arteriosa, and the pulmonary vein the arteria venosa. In respiration he distinguished a systole, a distole and a period of rest arising from the desire to both inspire and expire. Arterial pulsation he attributed to communication between the heart and the walls of the arteries. He distinguished between arteries and veins and held that the former contained blood. The fact that, in the cadaver, the arteries are empty had led to the belief that they contained air, whence their name.

Erasistratus described the chordae tendineae. He experimented with the heart and recognised the stream directing functions of its valves. He compared the heart to a bellows which dilated and contracted but he thought that pneuma was the normal content of the arteries. The bleeding which followed the wounding of an artery was, he thought, due to venous blood refilling the vacuum caused by the loss of pneuma. Inspiration brought pneuma into the pulmonary veins through which it passed into the heart and thence into the bloodless arteries. The influx of pneuma into the arteries occasioned their dilation and thus the pulse. Both Herophilus and Erasistratus controlled bleeding by ligature, a practice well known to the ancient Egyptians but soon to become forgotten to surgeons until the time of Pare. Erasistratus gave a scientific reason for tightening his belt when he was hungry. He said it obliterated a "vacuity in the stomach" which vacuity caused hunger. He said also that plethora



of the liver caused dropsy. He was strong on plethora as a cause of disease.

Herophilus was the leading obstetrician of his time. He recognised and described many of the conditions responsible for difficult labors. He taught his students how to handle them and he also invented an embryotome. One of his most famous students was the Athenian lady Agnodice. She went home to practice but, because of a law which forbade women to practice in Athens, she disguised herself. Soon she was so busy that the other doctors became jealous and laid against her a charge of corrupting the women. This she disproved by revealing her sex but then she had to contend with the law against woman doctors. But the Athenian women came to her aid and by working upon their husbands, had the law changed. Herophilus described the uterus, tubes, ovaries and some of their disorders. He described, and gave its name to, the prostate gland. He also gave its name to the trachea.

The cause of disease was then regarded as lying in the humors—the humoral theory being the basis of ancient etiology. According to Herophilus the humors became corrupted and according to Erasistratus there was plethora and aberration of humors in disease. When this occurred in the larger arteries there was fever, when in the smaller arteries the result was inflammation. In fever the pneuma was crowded back to the heart and the venous blood got into the arteries. In inflammation pneuma was driven from the heart into the arteries which resulted in the detention of blood in the small vessels. Said Herophilus "paralysis is due to lack of influence of nervous force"—which is true enough—and "sudden death is due to paralysis of the heart."

Diet, bleeding and drugs were the remedies of Herophilus, who in general followed the teachings of Hippocrates. But Erasistratus, though himself born in Cos, rejected Hippocrates. Strangely enough he seldom bled in spite of his belief that plethora was the cause of most ailments. He relied chiefly upon diet. It is more than likely that his patients were of the courtier class given to over-eating. Thus his treatment was the same as that of the famous Dr. Abernethy who flourished in the reign of George III and whose chief remedy was the biscuit that bears his name. Erasistratus did not employ purgatives, much in favour with Herophilus, but gave emetics, which Herophilus does not seem to have used very often. I imagine there were some ribald comments made upon the two men whose methods of treatment were so opposed. I suppose the followers of Erasistratus regarded themselves as advanced and the Herophilists were backward just as were the visible results of their treatment.

There was a bit of the homeopath about Erasistratus for he prescribed 2 drops of wine in

water as a remedy. He gave up paracentesis because it gave relief only and never cured, but he opened the abdomen to apply his remedies directly to the affected viscera. He was the original "operating physician." Among his inventions is the catheter.

It is a great pity that we know so little about the intimate lives of these men. In the Museum, in the Library, at the Royal Table, in the streets how many encounters must there have been between these scientists, philosophers, writers and doctors. But alas, there was no Boswell nor even a Pepys to tell us what they did and said. But there is one incident recorded that sets its characters in a human light. There was a philosopher living in Alexandria, called Diodorus Cronus, who among his syllogisms had this: If a body moves, either it moves from a place where it is, or from a place where it is not; but it does not move from the place where it is because it would not then be there, and it does not move from the place where it is not, for a body cannot move from a place where it is not, therefore nothing moves. Now it happened one day that Diodorus dislocated his shoulder and sent for Herophilus. Herophilus who probably had tried arguing with Diodorus before, now took advantage of his distress. "So you have a dislocated shoulder," said Herophilus. "Now how can that be? Either the bone of your arm moved itself from the place where it was, or from the place where it was not. According to your principles it could not have moved from one or other place, therefore it has not moved." I suppose Diodorus, very unphilosophically groaning with pain, shouted back, "In the name of Zeus have it your own way, only put the bone back to the place where it ought to be."

There was much rivalry between the teachers, and their pupils stressed and exaggerated the differences of the two schools. In the following reign these differences were to become exaggerated still further. Let us leave them and turn again to the political history of Egypt. Ptolemy Sotor left three families. His first children had for their mother the beautiful and notorious courtesan Thais. His first wife was Eurydice and by her he had a son—Ptolemy Ceraunus—whom he banished. His next wife, the lovely and starry haired Berenice, bore him a daughter Arsinoe and a son Ptolemy who succeeded him and to whom he abdicated his throne two years before his death.

Potlemy II (Philadelphus) was born in Cos where he grew up surrounded by philosophers and scholars. Moreover he was not regarded as heir and consequently escaped the pernicious influences which so often surround and destroy the heirs of kings. He showed his father's aptitude for government and his father's love of scholarship. As a military leader he was less successful.

Early in his reign the Romans defeated Pyrrhus and he sent ambassadors to them with messages of congratulation. He also offered them a treaty of peace which, coming as it did from the most powerful monarch of the time, the Romans joyfully accepted. Later, when the Punic war was raging, he denied help to the Cathaginians. His military resources were very great. He had a force of 250,000 Macedonians. The vast army of Egyptian soldiers were not numbered, though they were efficient and useful yet they were "only Egyptians" and therefore were not of enough importance to be catalogued! He had 40,000 cavalry and many elephants. He also had a navy of 1,500 vessels and 600,000 rowers for his ships.

The most remarkable of his men-of-war was given to him by Hiero II, king of Syracuse. It was over 400 feet long and weighed 4,200 tons. It had marble staircases, marble columns, gardens, and stables for horses. Its rooms were filled with statuary and pictures. Its floors were mosaic depicting subjects from Homer. It had eight fortified and battlemented towers. We are not told how many sweating slaves were chained to its oars, but when we remember that the light galleys were fitted with 50 oars, each with six slaves, or 300 in all, and that the quadraremes required up to 2,000 rowers and even more, the number needed to move this vast and useless toyship must have been enormous. No doubt Hiero's kinsman Archimedes had a hand in its building.

Ptolemy, of course, reciprocated and among the gifts he sent was a handful, more or less, of a weed which grew in the delta. A weed perhaps but by no means common because it was papyrus—the ancient substitute for paper and, in the eyes of the Syracusan Greeks, a gift fit for an emperor to give a king. Hitherto the literary Greek had to record his thoughts on linen, wax or even the leaves of trees, while stone and metal were the media for state documents.

This gift of papyrus was as great then, as the gift of movable type later, to the world of letters. There is no papyrus now in Egypt—it served its purpose and died as did the culture of the land wherein it grew. Only at Syracuse will you find it growing wild along the banks of the Anapo where Hiero had it planted. There it sways and droops and bows, an enduring monument to Hiero and his ship which are but memories, and to Ptolemy and his empire so long since fled. Ptolemy had a "corner" on papyrus. It made him the paper king and the printer and publisher of the ancient world. When the library at Pergamum threatened to outstrip his own at Alexandria, he prohibited the exportation of papyrus, a ban which led to the introduction of parchment by some ingenious citizen of Pergamum.

Ptolemy built a canal linking the Nile with the Red Sea and developed other roads by which an immense quantity of goods were carried from the East to the West. So enormous was this traffic that his customs duties were said to have exceeded \$20,000,000. He was as generous as he was rich and devoted much of his wealth to the extending of the buildings and influence of the Museum and Library.

He lived on the most familiar footing with the teachers of the Museum, and at times played jokes upon them.

Ptolemy kept the good opinion of all his subjects. The Egyptians appreciated his liberality and care. The Jews were grateful to him for buying out of slavery a hundred and twenty thousand of their brethren. The Macedonians found him lenient and just. It is worthy of notice that the long residence of the Jews among Macedonians, had led many of them to forget Hebrew and to know only Greek. They wished to have their Scriptures translated authentically into Greek and this was done at the expense of Ptolemy. This was the origin of the Septuagint and introduced the Hebrew Scriptures to Greek scholars.

Ptolemy's first wife was Arsinoe, daughter of Lysimachus of Thrace. By her he had three children, one of whom succeeded him. Arsinoe, however, was banished because of her too great intimacy with her doctor. He then married his full sister, also named Arsinoe who had been married to her half brother, Ptolemy Ceraunus, and before that to the aged Lysimachus, the father of her husband's first wife. Ptolemy had an extraordinary affection for this sister and after his marriage he took the surname Philadelphus—sister lover. He reigned for 40 years.

We left doctors divided into two schools and calling themselves Herophilists and Erasistratians. The founders themselves died early in the reign of Philadelphus but their schools continued to flourish. Among the followers of Herophilus were Eudemus the anatomist; Callinax, notorious for the harshness of his treatment; Demetrius of Apamea who named and described diabetes, and was a distinguished obstetrician; Ammonius who was an honest as well as a skillful lithotomist and the inventor of a stone-crushing instrument. There was good reason for Hippocrates to insert, in his oath, a paragraph dealing with cutting of the stone. The stone cutters were often racketeers and Antiochus of Syria was murdered by them. The followers of Erasistratus included Strato of Coele Syria who wrote commentaries upon Hippocrates; Xenophon of Cos, the botanist and gynecologist; and Philoxeus the surgeon. These were great men in their day but little now remains of them except their names.

The two great schools had declined. Now they were given up to argument and theory. This led

a number of students to cry out "a plague on both your houses" and brought about the formation of a new school—the Empirics. Empiricism was the result of the introduction into medicine of the sceptic philosophy. It set experience above everything else. It did not concern itself greatly about the causes of disease and completely rejected anatomy and physiology. One of its founders was Philinus of Cos, a pupil of Herophilus, who discarded all dogma and relied upon "autopsia" alone. That, however, does not mean that he made no diagnosis until a post mortem had been done. He used the term in its strict etymological sense as meaning personal observation.

Another prominent empiric was Glaucias who wrote commentaries upon Hippocrates with the purpose of proving that Hippocrates was an Empiric. He also invented the Empiric tripod, the three legs of which were: 1. Autopsia or personal observation; 2. History, records of the observations of others; 3. Analogy, drawing conclusions from similar cases. To these was added a fourth leg—Epilogism—inference of previous condition from present symptoms.

It is obvious that Empiricism was not without its good points, but it also had great faults. Its object was to cure the patient and any knowledge that did not obviously and directly contribute to this end was held to be useless. Thus were thrown overboard, anatomy, physiology, and pathology, and no search was made into etiology. The empirics believed that disease was a coincidence of accidents, which always concur in the human body in the same way. It makes one think of the chiropractors and their subluxations. Another fault lay inherent in their guiding philosophy for a sceptic can never be sure. "Nothing is certain and even that is uncertain.

Nevertheless it made for experiment, and, as the beginning, aim, and end of all things for the Empiric was cure, naturally his experiments were largely pharmacological. As a result Serapion of Alexandria found the value of sulphur in skin diseases, and Heraclides of Tarentum employed opium in various disorders. Both Apollonius Biblvs and Apollonius the Empiric wrote books upon drugs but possibly the most famous Empirics were the two kings—Attalus the Third of Pergamus and Mithridates the Great of Pontus both of whom, however, lived long after the time of Philadelphus. Both of these monarchs had botanical gardens where they grew medicinal and especially, poisonous, plants the effects of which they demonstrated upon their slaves.

Of the two, Mithridates is the more colourful. Well was he named "the Great", for we are told

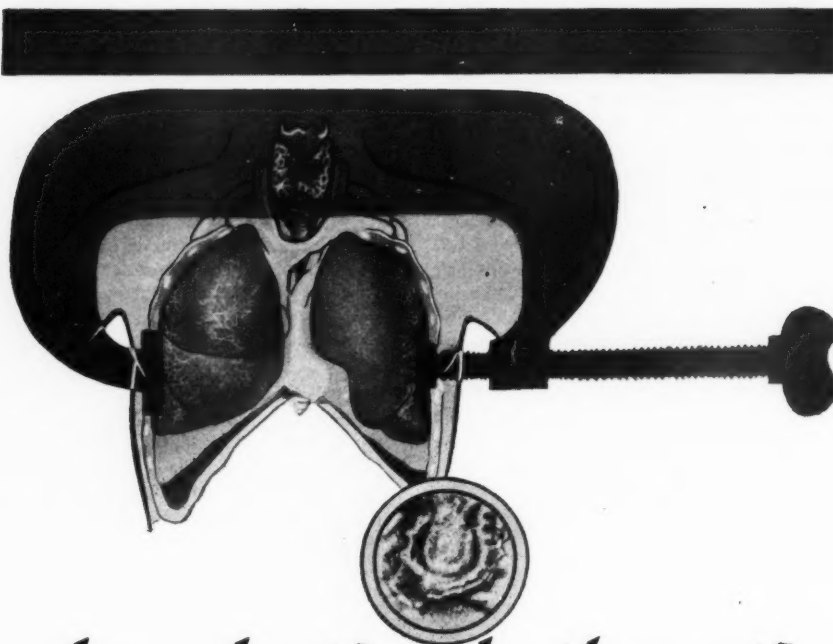
of him that he had the stature, the strength, the appetite and the thirst of a giant, was the master of 25 languages, the butcher of 100,000 Italians and the lover of innumerable women. It reminds one of Carlyle's description of August the Strong. "What," says Carlyle, "shall we say of August? History must admit that he attains the maximum in several things. Maximum of physical strength, can break horse shoes, nay half-crowns with finger and thumb. Maximum of sumptuousness, no man of his means so regardless of expense. Maximum of bastards three hundred and fifty-four of them, probably no mortal exceeded that quantity." And so was Mithridates Eupator, King of Pontus.

Mithridates feared nothing except poisons and he built up a resistance to their effects by taking increasing doses of all the poisons he knew about—the first example of immunisation. But the time came when life was no longer sweet and then he had to fling himself upon his sword for no poison would harm him. The name Mithridates lived on for centuries in the "Mithridaticum", the universal antidote which as a sovereign remedy for all diseases, made many fortunes for many quacks over many centuries. Even Galen believed in it.

But let us return to Ptolemy Philadelphus. He was succeeded by another great Pharaoh, the third Ptolemy named Eurgetes. After that the race declined and so did Alexandria. Even as Mithridates fell upon his sword the sands of the Ptolemies were running out. The last of the Lagidae, the wife and sister of the 15th Ptolemy, the famous Cleopatra, seventh of the name, was then a year old and in 15 years more she and her kingdom were in the hands of the Romans.

The rise of Rome meant the fall of Alexandria. The sailors of Julius Caesar burned the Library, and warmed themselves with the wisdom of centuries. The venerable men who graced the Museum and whose strength lay in their minds were driven out and their places taken by athletes strong only in their bodies. Literature and culture were only for slaves. The Roman's pen was his sword and his ink was blood. Yet he who got pleasure in plunging his weapon into a living body, shuddered to think of a scalpel touching a body that was dead, and so dissection was banned as impious.

The glory that was Greece had given place to the grandeur that was Rome. The spirit of research, so welcome in the halls of the Ptolemies, was almost forbidden within the palaces of the Caesars. But the Roman doctors still drew their inspiration from Greece and so Greek medicine lived, though it persisted rather than thrived, in the alien and unfavouring atmosphere of Rome.



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## BOOK REVIEWS

**Eleven Men and a Scalpel**, by Lieut.-Col. John Burwell Hillsman, No. 8 Canadian Field Surgical Unit, Winnipeg, Columbia Press Ltd., 1948.

Emphatically this is not a war diary which, however valuable to members of a particular unit, makes little appeal to the ordinary public. Neither is it written from an historical or technical standpoint. It is not fiction, nor does the author belong to the "blood and guts" school of war correspondents. Most people would like to shut out from their memory the war, or recall it only as a bad dream. If a war book is to be read, and continue to be read, other than as a technical or historical treatise, it must be a human document, alive and vibrant with the emotions of men, women and children under the stress and strain of modern warfare. This is the quality that runs through Col. Hillsman's sketches of life in a Field Surgical Unit, a unit peculiar to the late war in that the surgeon was brought to the casualties, instead of the reverse. These sketches bear the stamp of authenticity. There is grimness, humour, pathos, realism, utter weariness and depression of spirit at times, but enriched with that devotion to duty which can laugh at and accomplish the impossible.

No one who had not lived through them could describe those tense moments in a war hospital when every muscle, nerve and sinew, already sorely tried, would revolt at doing more were it not for the indomitable will that bids them carry on. Our own John Hillsman's book deserves to be widely read and long remembered.

Ross Mitchell.

◆  
**"The Digestive Tract in Roentgenology,"** by Jacob Buckstein, M.D., 889 Pages, 1,030 Illustrations. J. B. Lippincott Co., Montreal. \$18.00.

For twenty-five years the author has been affiliated with Bellevue Hospital, New York, as Visiting Roentgenologist in the gastro-intestinal division. During this period he has "had the opportunity of correlating the roentgenographic findings in disorders of the digestive tract with those obtained at operation or autopsy." This book is a concise recording of his extensive experience during that period. He presents his material in a lively way by quoting illustrative case histories along with his roentgenographic reproductions. As a result, the book is extremely easy to read.

Glimpses of the history of the application of roentgenography to gastro-intestinal diagnosis have been scattered throughout the book. Many old as well as new references have been included in the bibliography.

Pathology has been adequately covered in this volume, and all roentgen features are described against a background of the underlying pathological findings. This is a feature that will be highly appreciated. The normal x-ray picture is similarly correlated with the normal anatomy.

To be a useful reference, a text-book on radiology must be profusely illustrated with radiographic reproductions of good quality. Buckstein's work rates high in this respect.

The author has not relied on personal observations alone. He quotes the opinions of other authorities as well, which adds to the completeness of the book. Extensive bibliographies are appended to the numerous sub-divisions and bear witness to the quality of the material in this book.

Quantitatively one may gauge the scope of this book by noting, for instance, that the section on the hypopharynx and oesophagus covers 108 pages, and that there are 60 pages on the spleen, liver and pancreas.

Of special interest to radiologists is the author's full discussion of the technical details in gastro-intestinal radiography.

Buckstein has apparently set out to write a thorough treatise on the value of the roentgenographic method in the study of the digestive tract. One can confidently say that he has achieved his end.

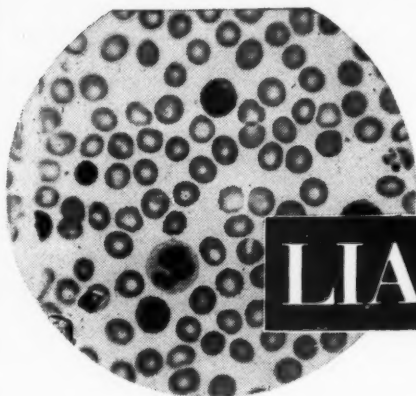
For radiologists this book is a basic need. For others it is a concise source book for authoritative information whenever the need arises. But for everyone, it is very interesting reading. Certainly no one could resist lingering over the x-ray of a sword in the oesophagus of a sword swallower.

F. G. Stuart.

## OBITUARY

### Dr. Armand Landry

Dr. Armand Landry, aged 39, drowned on May 12 in the Red River near St. Adolphe where he had been practising. The recent floods along the river with the need for inoculating the residents against typhoid had thrown a heavy strain on him. He received his B.A. degree in 1928 as a student in St. Boniface College and in 1934 his M.D. degree from Laval University. He is survived by his mother and two sisters.



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## EDITORIAL

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J. C. Hossack, M.D., C.M. (Man.), Editor

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### Hospital Beds and Cancer Control

Now that the Federal Government is interesting itself in the hospital situation we can look forward to the day when beds will be available in hours rather than in days or weeks. It is likely that the local institutions are planning their extensions and it is probable that a University Hospital will be erected. This latter is desirable as a means of co-ordinating teaching and of stimulating research. Its erection alone would release a number of beds and this would tend to quiet the fears of those practitioners who fear that they may lose hospital facilities.

But whatever is done it is certain that months or even years will pass before there will be available that number of beds which we now consider necessary. And before that time comes many things may have happened. Those who were in practice prior to the Depression will recall that there was then a similar dearth of beds, a dearth which became an excess during the Depression. It is a strange fact that prosperity brings over-work to doctors and hospitals, while in days of adversity both wards and waiting rooms are sparsely filled. What happened may occur again and it is possible that when we have available all the beds that we now want, many of them will remain empty.

There is, however, a matter within the scope of the Federal and Provincial Governments which is even more pressing than the supplying of more beds. It is easing the cost of diagnostic investigation. A few years ago such cost was tolerable, for most people were prosperous. But now that money is less plentiful the burden is great. This is especially true in the case of cancer which at the moment is the object of intensive propaganda. People are being made exceedingly cancer-conscious and doctors are proportionately cancer-suspicious. The value and benefit of such propaganda and such suspicion are shown by the success of their use against tuberculosis and syphilis. Routine chest films and routine Wasserman Tests have revealed many unsuspected cases and have done much to mitigate these scourges. But these tests and examinations cost the patient nothing. To investigate the cancer-suspect is expensive, and the individual himself must bear the cost. Moreover such investigation is almost of the nature of an emergency, it is so urgent.

It would therefore seem desirable to apply to cancer-suspects the provisions of the Manitoba Health Plan of 1945. According to this the Government undertook to supply free laboratory and X-ray services to all the population. The present high cost of investigation lays a heavy burden upon the sick. Too often it defers the seeking of advice whereby valuable time is lost and life is jeopardised. Such a barrier should not be interposed between the victim of cancer and his hope of cure. Let us hope that this matter will receive attention at the forthcoming convention.

### Take Dr. Hillsman With You

Now is the holiday season and when you set forth upon your vacation take John Hillsman with you in your pocket. Not the gentleman himself of course—he is not exactly pocket size—but his book "Eleven Men and a Scalpel." He will prove a pleasant and interesting companion as he gives you vivid glances behind the line of battle. He writes in a chatty, lively way so that his book is a "spoken" rather than a "written" one, and a "spoken" book is always the more interesting.

The book has one fault—it is too short. I am sure that Dr. Hillsman could have filled another fifty pages and his readers will wish that he had done so. Yet it is perhaps better to rise from the table a little hungry than to find the appetite sated long before the meal is over. And incidentally, Dr. Hillsman, the liouor that made Scotland famous is spelled without an "e." The Scots, a thrifty people, refuse to waste anything, even an "e" in whisky!

### Great Men

"Some," reads Malvolio, "are born great, some achieve greatness, and some have greatness thrust upon them." Among those who achieve greatness we must include the obese, although obesity is rather a matter of accumulation than of achievement.

Among the greatest (meaning the most obese) men in history was Daniel Lambert who tipped (or overset) the scales at seven hundred and thirty-nine pounds. To keep himself in "vittles," of which he required an abundance, he exhibited himself "at No. 53 Piccadilly, next the Albany, nearly opposite St. James's Church, from eleven to five



o'clock. Tickets of Admission, One Shilling each." When death finally caught up with this man-mountain (Lambert was forty years old when he died) the local undertaker was faced with a nice problem in mortuary science. A coffin 6 ft. 4 ins. long, 4 ft. 4 ins. wide and 2 ft. 4 ins. deep was erected upon axle-trees and four clog-wheels. A hole had to be cut in the wall to admit this conveyance and an unrecorded number of men aided by an undescribed tackle finally got the vast corpse into its crate. Twelve men laboriously dragged the strange vehicle to the grave. There an incline had been prepared and along it was slid the enormous casket to its final resting place.

Next to Mr. Lambert in bulk was Mr. Bright, a grocer at Maldon in Essex. He is described as "a cheerful companion, a kind husband, a tender father, a good master, a friendly neighbour, and an honest man." This paragon was cut off by death in his thirtieth year when his weight was 516 pounds. As he had made the mistake of living upstairs where his bulk made him a prisoner in his room, the house had almost to be wrecked to get the coffin in and the corpse out. Bright, also, was trundled off to his long home in a combination coffin and wagon and a sort of derrick was rigged up to lower it into its grave. After the funeral someone wagered that Bright's waist coat would hold five men each twenty-one years old. The waist coat was secured and taken to the local pub—the Black Bull Inn—where it was found that not five but seven men could be enclosed within its ample compass without breaking a stitch or straining a seam.

Compared with Lambert's 769 pounds and Bright's 616, John Love's mere 364 pounds is almost a negligible weight but the way he came by it is interesting. Love was apprenticed to a celebrated engraver who made the mistake of going in for forgeries. In time the law caught up with him and dealt so harshly with him that Love fled from London in terror. Perhaps he was afraid that the law

would catch up with him also but anyway he could neither sleep nor eat. He became so emaciated that his friends feared that he had consumption and called in a physician who prescribed a "nutritious diet." Love did then really go in for consumption—of food. He was plied with food so successfully that he soon acquired a relish for the pleasures of the table. From then on it was just a matter of time until he burgeoned forth as a claimant for the heavyweight title. He was doing fairly well—had reached 364 pounds—when, while still in his early thirties, he fell a victim to his last illness.

The inspiration for this dissertation on obesity is a damsel now under my care. With some difficulty I have persuaded her to relinquish a hundred and ten pounds. But my task is not yet over—she still weighs 273.



#### Letter to the Editor

Dear Dr. Hossack:

Recently I have had a letter from the British Medical Association librarian and they are in need of several issues of journals to fill in losses. Would you be so kind as to print a notice in the Review asking for the journals listed below? If the journals were brought or sent here we would forward them.

Thanking you for your assistance, I am,

Yours sincerely,

Ruth D. Monk, Medical Librarian.

#### Wanted by the B.M.A. Library

Canadian Journal of Public Health: 1933, Nos. 1, 2, 5, 7; 1934, No. 3; 1937, No. 6.

Annals of Surgery: November, 1946.

American Journal of Obstetrics and Gynecology: July, 1942.

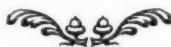
Archives of Otolaryngology: August, 1944.

New York State Journal of Medicine: 1945, No. 3.

United States Naval Medical Bulletin: v. 42: 1944,

Nos. 2 and 6; v. 44: 1945, No. 4; v. 46: 1946, No. 2.

United States Public Health Reports: 1944, Nos. 31, 35, 36; 1945, Nos. 29 and 41; 1946, No. 23.



## ASSOCIATION PAGE

Reported by M. T. Macfarland, M.D.

### Canadian Medical Association 79th Annual Meeting

By the time this reaches the eye of the reader, the annual meeting of the federal association will have been held. Last year Winnipeg was honoured as the convention city, this year the meeting was held from June 21-25 in Toronto, with the Royal York Hotel as headquarters. The final meeting of the 1947-48 Executive was held on June 18th and 19th, while General Council, the C.M.A. parliament, was held on June 21st and 22nd. Representatives from the Manitoba Division were Drs. R. W. Richardson, A. M. Goodwin, M. T. Macfarland, A. Hollenberg, Elinor F. E. Black, H. S. Evans, C. B. Schoemperlen, Quentin D. Jacks, Anna E. Wilson and V. F. Bachynski. The Scientific programme began on June 23rd and continued to June 25th. On Wednesday, June 23rd, a special meeting was called to consider the claims of the General Practitioners, and at the Annual Meeting on the same evening, Dr. Fred McGuinness handed the Chain of Office, symbolic of the Presidency, to Dr. W. F. Magner, Toronto. Presentation of Senior Membership was made to Dr. W. A. Gardner, Winnipeg, and a similar honour was bestowed upon representatives of each other Province. In addition to the many activities of the Association and related professional groups, extensive plans had been made for the entertainment of guests, both male and female, by appropriate Committees. Further and fuller reports of the success of the meeting will be available from those who were fortunate to attend.

### Municipal Doctor Contract

It was anticipated that a meeting of the Municipal doctors would be held early this spring to discuss problems common to this type of practice. Unfortunately mother nature was not to be denied her coming out party, and flood conditions prevailed in many sections of the Province, increasing the work of many doctors and making roads unfit for travel. The pow-wow has now been interrupted by the meeting in Toronto of the Canadian Medical Association, and plans will have to be advanced to August, September or October. If the time of the Annual Meeting of the Manitoba Medical Association, October 19, 20 and 21, is not considered too late, suitable occasion would then be available. Kindly communicate your opinion to the Executive Secretary.

### Federal Health Plan

The details for the new federal health plan were outlined as follows in the May 15th issue of the Winnipeg Tribune:

Outright grants for the construction of additional hospital accommodation, on the basis of \$1,000 a bed for active-treatment beds and \$1,500 a bed for chronic or convalescent beds. These will total \$13,000,000 a year.

A non-recurring grant of \$625,000 for health surveys, to be divided on this basis: \$5,000 to each province; the remainder to be divided among the provinces on the basis of population, with the proviso that no province gets less than \$15,000.

An Annual grant of 35 cents per capita to strengthen the general public health services in deficient areas, the payment to be increased five cents yearly until it reaches 50 cents per capita. The commitment for the first full year will be \$4,404,000.

An annual grant of \$3,000,000 rising to \$4,000,000 over a period of years, for tuberculosis control and to extend progressively the areas of free treatment.

An annual grant of \$4,000,000 rising to \$7,000,000 over a period of years, for mental health care.

An increase of \$275,000 in the present annual grant of \$225,000 bringing the total to \$500,000—for venereal disease control.

An annual grant of \$500,000 for the prevention, control and treatment of crippled children.

An annual grant of \$500,000 to help train public health personnel, such as health officers, nurses and ward aides.

A grant of \$100,000 to increase by \$100,000 a year until a peak of \$500,000 is reached, for public health research.

An annual grant of \$3,500,000 to develop and provide the "most active possible diagnostic and treatment services" for the control of cancer.

### Professional Registry

Yes, we still endeavour to keep in touch with opportunities for practise, locum tenens and such like. If those searching for appropriate openings, and those looking for suitable candidates, advise the office at 604 Medical Arts Building, Winnipeg, all possible help will be given. Help us to help others!

### Change of Address

If you plan to go away for extended post-graduate work, or to some permanent appointment, if you have changed your address from rural to urban or vice versa, or if you have changed office location (or moved to a new home) in the same town or city, we'll appreciate a card addressed to 604 Medical Arts Building, Winnipeg.

### Manitoba Medical Association — Meeting of Officers

A luncheon meeting of the Officers of the Association was held in the Medical Arts Club Room on Friday, June 11th, 1948. Attending were Drs. R. W. Richardson, D. L. Scott, A. M. Goodwin, C. B. Schoemperlen, M. T. Macfarland and W. J. Boyd.

#### Free Revision

The Executive Secretary reported that, in accordance with the resolution of the last Executive Committee meeting, representatives were being selected by each group, comprising the "Block System," Manitoba Medical Service, to meet with appointed representatives from the General Practitioners' Association. The first meeting will probably be called by the President, M.M.A., in early July, and it is anticipated that more than one gathering will be necessary before definite proposals are submitted for consideration of the whole Association.

#### District Society Meetings

The Southern District Medical Society met in the new Altona Hospital on June 10th, when the speakers were Drs. Dave Swartz and Paul Tisdale, Winnipeg.

The Brandon and District Medical Association held a combined business-scientific session at the Brandon General Hospital, Wednesday, June 16th. Dinner was served at 6.30 p.m., and Drs. R. O. Burrell and D. N. C. McIntyre were the speakers.

#### M.M.A. Annual Meeting Committees

The various Committees' plans for the Annual Meeting of the Association to be held October 19, 20 and 21, at the Royal Alexandra Hotel, are gradually being completed, and will shortly be published in the Review.

#### Hospital Bed Situation

At the last Executive Committee meeting, Dr. C. E. Corrigan outlined suggestions by the General Practitioners Association concerning hospital beds, viz:

- (a) Need to build more hospitals.
- (b) Need for better distribution of available beds.
- (c) Opening of D.V.A. facilities for the profession generally.

Dr. W. J. Boyd reported that the letter was passed by Winnipeg Medical Society Council to the Winnipeg Medical Society Annual Meeting on May 21st, when the following resolution was approved. "That this matter be referred to the Manitoba Medical Association for early consideration, and the urgent action of the proper hospital, municipal, provincial and federal governments."

Subsequently at the meeting of the Winnipeg Medical Society Council on June 2nd, full support was given by resolution to the Hospital Committee of the General Practitioners' Association, as to the urgency of bed situation in all hospitals in Winnipeg, and Dr. W. J. Boyd was asked to bring the matter to the attention of the Manitoba Medical Association Executive in June. The problem will probably be discussed during the Canadian Medical Association General Council, when the reports of the Committee on Economics and the Committee on Hospitals are presented, and further action was deferred until that time.

#### Correspondence:

##### Workmen's Compensation Board Proposals

A letter dated May 26th, 1948, from Mr. N. Fletcher, Secretary, Workmen's Compensation Board, enclosing outlined proposals for increased Fee Schedule which the Board is willing to pay for certain procedures was presented. These proposals will be considered by the Workmen's Compensation Board Negotiating Committee.

##### Representative from Manitoba Division, Canadian Medical Association, on Advisory Commission

A letter dated June 2nd, 1948, from Dr. F. W. Jackson, for the Honorable Minister of Health, indicated that Dr. A. Hollenberg's term of office on the Advisory Commission under Section 7 of the Health Services Act had expired, and nomination was requested. The Minister added that the Commission had enjoyed its association with Dr. Hollenberg, and appreciated his keen interest and wise counsel as a member, and he expressed his personal sentiments of appreciation. On resolution, the name of Dr. A. Hollenberg was proposed for re-appointment to the Advisory Commission for a period of three years.

##### Reports of Department of Health and Public Welfare

The Executive Secretary reported that two copies of the Review of Activities, 1947-48, presented to the Provincial Legislature with Comments on Estimates (1948-49) of the Department of Health and Public Welfare, had been received by the President and himself. These were perused and ordered filed.

#### New Business:

##### Discussion of Pension Plan

Dr. W. J. Boyd reported for the Winnipeg Medical Society, that during the Annual Meeting of that body on May 21st, and following presentation of the Winnipeg Medical Society Benevolent Fund report, Dr. M. S. Hollenberg had suggested that a benefit or pension plan be set up by the Manitoba Medical Service, by allocating a percentage of proceeds for that purpose. At the Winnipeg Medical Society Council Meeting on June 2nd,

1948, a letter from Dr. Hollenberg enlarged on the suggestion. Council, though interested, felt the matter should be brought to the attention of the Manitoba Medical Association, through whom the work would have to be done. Dr. M. S. Hollenberg will probably be invited to attend the next Executive Committee meeting to outline his idea in greater detail.

#### Questionnaire in Respect of Dominion Tariff

Dr. A. M. Goodwin, Corresponding Member of the Canadian Medical Association Committee, reported that an extensive questionnaire had been submitted by the Chairman, Dr. J. F. C. Anderson, Saskatoon, for reply by June 10th. A brief outline of his reply was presented.

#### Income Survey, Dominion Bureau of Statistics

The Executive Secretary produced a clipping from a local paper with C.P. despatch of June 10th, that the Dominion Bureau of Statistics had released results of a survey showing that the average Canadian doctor made \$3,900.00 in 1939, and \$6,200.00 in 1945, an increase of 60%. There was no additional information to indicate the manner in which the figures were arrived at, or the comparable extent to which expenses of providing medical care have risen in the nine year interval.

◆  
**Date of Next Executive Meeting**—At call of the President.



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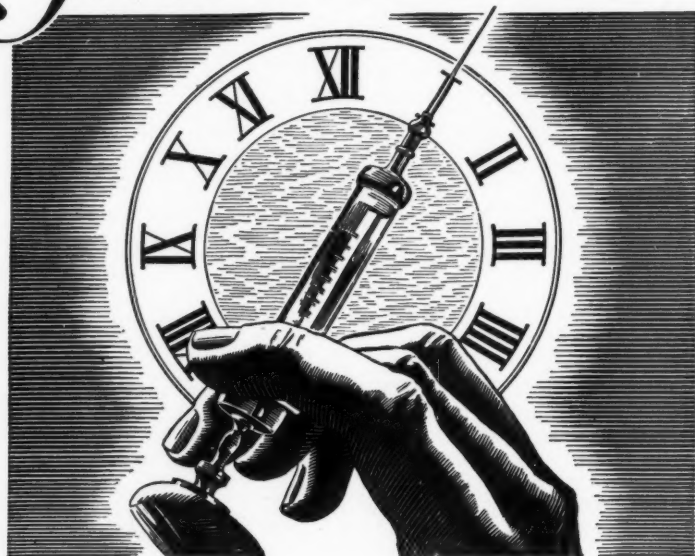
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## Winnipeg Medical Society

### Presidential Address

Delivered at the Annual Meeting of the  
Winnipeg Medical Society, May 21st, 1948,  
by Dr. C. E. Corrigan, Retiring President

The reading of a presidential address marks the culmination of a year's achievement, a year of great interest, happy associations, keenly felt honour and also—a year of dread and to some extent even anxiety, for after all a term of office cannot be completed without the conception and delivery of a presidential address.

One is prompted to recall other presidential addresses delivered before this society in the past. My association with the society commenced in 1931 when the then president, Dr. J. D. Adamson, delivered a discourse on "Rupture of the Heart." It is a confession of incompetence to be able to recall but one remark from the plethora of sound clinical and scientific adornment that characterized his paper. In referring to the rarity of the condition he stated that it was statistically unsound for an ardent lover to proclaim to his beloved that he was in danger of sustaining a rupture of his heart—better should he announce an imminent perforation of his bowels.

One then recalls the clear cut presentation of the late Dr. F. J. Hart who spoke on Bright's disease, the ailment afflicting the very first patient to whom he was called in private practice following his graduation. In a private conversation after the meeting, Dr. Hart produced from his pocket the identical old-fashioned one dollar bill with which the patient had rewarded him for many weeks of treatment.

And then there was the address of the late Dr. A. P. MacKinnon who spoke on his hobby, "Gardens", and illustrated his theme with lantern slides reproduced from the imaginative pen of the late Dr. A. Blondal. One of these, in particular, I recall, namely: "The man who carries his garden about with him"—a caricature of the late Dr. Spurgeon Campbell, pushing in front of him a wheelbarrow attached to his shoulders, and loaded with an enormous carnation.

Lastly one recalls more intimately the spell-binding and fascinating discourse of the immediate Past President, Dr. Walter Tisdale. As a member of the audience I thrilled to his story but later in the evening when the ballots had been counted, my appreciation of his presentation invoked a state of cold sweat. For the realization dawned suddenly that I would soon have to deliver an address which would inevitably be compared to his and the all too obvious verdict has remained ever since as a sword over my head. Walter Tisdale made me

suffer intensely all year. I have therefore resolved to be a benefactor to all those who in future may be called upon to anticipate the honors of having to deliver presidential addresses before this society. In short I am determined to deliver an address of such feeble and puerile proportions that no future retiring president need have any worries as to his laurels.

The topic which I have chosen has no particular beginning and no conclusive ending, though I hasten to assure the members present that I shall abide by Chapter XIII of the Society's by-laws which specifically limits papers to a span of 20 minutes.

My subject is the Evolution of Disease.

To define disease is not easy because for one reason it is related to life and hence must reflect all those doubtful factors that characterize processes in biology. I propose to attack the subject by posing three questions, namely:

- (a) Do diseases undergo change?
- (b) What are the possible mechanisms which favour such changes?
- (c) Is man himself contributing to these changes?

As previously stated, no logical conclusions will be attempted but one has found the subject an interesting one, and logic is so un-interesting.

#### (a) Do diseases undergo change?

I believe you will agree that many conditions seen today differ in several respects from their manifestations of 30 years ago, and these changes cannot be accounted for on the basis of earlier and improved treatment, suppression by public health measures, the recognition of sub-types previously existing but not described. But to prove that this means evolution in the true sense of the word, requires critical investigation.

Firstly it may be that refinements in methods of diagnosis and investigation have merely led to a better understanding without the disease processes themselves having undergone evolution. For instance, my original student's text book of surgery referred to fibrous stricture of the rectum as a disease of uncertain origin. But lately our knowledge concerning lymphogranuloma inguinale has expanded to correlate and elucidate our knowledge of this previously perplexing condition.

Again one must exclude the geographic migration of diseases as a possible source of error to our thesis. The desert sores of the Eighth Army, later to affect Canadian Troops, appeared at first to be a new disease—but wrongly so. The last example I saw was in Winnipeg, in a young man recently returned from the Mediterranean littoral.

Lastly, the dwindling incidence of some forms of disease does not necessarily presage their extinction—extinction being a positive criterion of evolution. Cancrum oris, for instance, appeared in the inmates of the more foul concentration camps of Western Europe during the late war.

But allowing for our errors in observation, and our failure to consider unknown but possible factors, I think we must agree that disease processes do change, whether by inherent alteration of the seed or by manifest changes in the soil. The first step in the proof that bacteriophages were living agents, was the discovery of their ability to undergo mutations. To corollarize, living bacteria must undergo evolution, hence disease must change.

One finds it difficult to believe that a master of the stature of Virchow could have missed seeing and describing regional ileitis—yet his writings contain nothing to indicate he knew of it. Does this fact not suggest that Crohn's disease is a new entity? True there is nothing new in the features of its cellular histology, but as a clinical manifestation one must conclude that it is a newcomer. Reiter's disease, that peculiar affliction of various delicate membranes, did Osler see it but fail to comment on it? The recognition of these two conditions has not been dependant on refinements in the technical methods of diagnosis. Surely one must consider them to be of recent origin.

**(b) What are the possible mechanisms by which diseases may change?**

To answer this question we must attempt to review the past as well as the present. Firstly we have the firmly founded facts of anatomical evolution, as they affect man and his afflictions. The comparative anatomists assure us that our teeth are on the wane. H. G. Wells prophesied that in two million years time man will be permanently edentulous. Per contra, on the side of gain as opposed to loss, man is the only animal who has developed a palmaris brevis muscle. The ability of the human hand to grasp smooth rounded objects depends to some extent on the presence of this muscle—a fact not fully appreciated until after World War I when the need for the large scale manufacture of prostheses stimulated the study of functional anatomy. So delicate is the purpose of the palmaris brevis muscle that no ex-service amputee will trust his artificial hand to hoist a glass of beer, no matter how intricate the mechanism.

When we come to consider the feet and legs, we can see even more obvious evidence of anatomical change, here based chiefly on the shift from pronograde to orthograde posture, from four-footedness to two-footedness. The upper end of the fibula, so commonly maligned as an atavistic bone, is actually evolving in an upward direction. It must give origin to the perineus tertius muscle,

specialized to assist its major namesakes in the maintenance of erect posture. No four-footed animal possesses a perineus tertius muscle.

And now for the diseases that may possibly result from our comparatively recent change in stance.

Flat-footedness is not necessarily a disease, witness the training of ballet dancers, but its development may be associated with a chain of most uncomfortable symptoms. No animal other than man suffers from this complaint. It appears to be the penalty paid for our heritage of two-footedness acquired during an evolutionary spurt. Perhaps the advent of the motor car will give us a breathing space in which to adapt our feet to our new mode of progression, provided such is not negated by the latest and most dramatic mode of travel, namely, the parachute.

In the past decade we have been greatly concerned with a problem, not new but of apparently increasing importance, namely, vascular diseases of the lower extremity. And one may be pardoned for asking the question—why the lower extremity? Why should phlebitis, varicose veins and senile gangrene tend to affect the lower rather than the upper extremity? One may be justifiably intrigued by the theorem that the answer may lie in the alteration of function recently assumed by the lower extremities, for in man they must act as balancers as well as movers and supporters. Consider for instance the alteration in functions undergone by the lower extremities when a patient takes to his bed, the upper extremities on the contrary carry on as usual.

We are all familiar with the comparatively recent diagnosis of the protruded intervertebral disc. Whether or not this is a new disease is beside the point but its occurrence in primates only (it has been described in macaques, ourang utangs and doctors as well as in ordinary patients) leads one to wonder if the alteration of stresses thrown on the vertebral column by the assumption of the erect posture may not be the primary underlying factor.

Fibrositis of muscle—to use a misnomer, that condition characterized by painful and tender palpable nodules, has been cited as another instance of the price paid by man for his two-footedness. It undoubtedly affects those muscles that have undergone most change in function consequent on the assumption of an erect attitude. Certainly the antigravity muscles of the trunk appear to be the seat of election.

Again in the field of anatomical and functional evolution one can refer to conditions which are related, at least, to the sympathetic nervous system. This device is the most recently acquired portion of our nervous system and in man alone does it attain a complexity and specialization of function far above that seen in any of the lower



animals. Two points are worthy of note here. Firstly, let us beware of any conclusions drawn from animal experiments which purport to cast light on the function of this system in man. Secondly, it is axiomatic that the newer a mechanism and the more complex its structure, the more likely it is to suffer vagaries of function. Is it not possible that Raynaud's disease, causalgia and many other ailments are due to the erratic blackouts of normal action ever likely to appear in a new and as yet unperfected evolutionary mechanism?

Lastly in the field of anatomic evolution we may recognize another source of difficulty in the surgent rise of the lymphatic system. As with the sympathetic, so with the lymphatic realm. Both reach the zenith of their complexity in man, and both are chiefly concerned with the maintenance of a placid internal economy. It was not until 1922 that Ewing described the tumour of bone that perpetuates his name, while Hodgkin first wrote of his peculiar malady less than a century previously. I am not suggesting that these conditions had never occurred prior to their classical description, but is it not possible that both have evolved and become more common as the result of more frequent breakdowns in the functioning of a comparatively recently acquired and relatively unstable adjuvant mechanism?

So much for the physiological pitfalls of anatomical evolution. What of the other possible mechanisms that may facilitate new fashions in disease processes.

The constant upward revision of life expectancies is resulting in a change well known to us all, as witness the recent caption, the new science of geriatrics. There is really nothing new of note under this heading, chiefly an increase in the incidence of degenerative conditions met with in the elderly. But it well may be that, when man has lived some centuries during an epoch where old age becomes common experience, (it may be) the clinical conditions of today in such age groups will become modified and converted into syndromes of slightly different characteristics.

The factor of the sensitization of man to altered modes of life must play an important role in our problem. Cassion disease, mountain sickness, air sickness, the polycythaemia of high altitudes are familiar examples of the effects of man's environment on his internal workings. One wonders if tobacco has exerted much of an effect in this regard, not as an etiological factor but as a conditioning agent. Is it not possible that Buerger's disease might not be common had Sir Walter Raleigh's female consorts put their commanding feet down more firmly in their drawing rooms? As recently as 1947, Rendle Short, an eminent British surgeon of Bristol, published a monograph purporting to show a definite etiological relation-

ship between the increase in the incidence of acute appendicitis and the simultaneous introduction of white wheat flour between the years 1895 and 1905 in Britain. Again comes the thought, is this not only possible but probable?

Much has been spoken at times of the results that might accrue through the perpetuation of defects in the race, due to the succouring of the mentally infirm, the congenitally deformed and the structurally inadequate. I can recall as a child hearing a rabid South Saskatchewan politician publicly oppose the establishment of tuberculous sanatoria on the grounds that the race would not benefit in the long run by salvaging these unfortunates. Whatever the value of such an argument, it is probably possible that the repeated inbreeding of unwanted recessive characteristics could quite easily lead to new vantage points for the culture and development of new disease processes.

Lastly we have to consider the phenomenon of change in the nature of infectious agents themselves. The capacity of an organism to survive depends on its being able to adapt to its surroundings and adaptability signifies the function of undergoing change. This present session of your society was opened by a discussion on virus diseases and you will recall the ideas then expressed by Dr. J. D. Adamson and others concerning the increasing incidence of virus diseases and their role in contributing to the changing nature of the disease processes with which we are being confronted. As was pointed out then, it is quite possible that the suppression of the formal bacteria by sulpha products and the antibiotics, has cleared the competitive field as it were, enabling the virus agents to step in and wreak their vengeance on human tissues. Just one aside on this point—did bacterial diseases play any of the benefactor's role in conditioning the human body against virus diseases?

We come now to the third and final question of our topic.

**(c) Is man himself contributing to the evolution of disease?**

Within the poorly definable limits of the definition, I think you will agree that this question must be answered in the affirmative.

The vast group of occupational diseases of industry are definitely man-made in incidence though not always in process. It is difficult to imagine silicosis occurring naturally, though presumably dyeworkers' carcinoma and mother-of-pearl workers' periostitis could occur apart from union shop, labour temples and John L. Lewis. The evils of radiation from X-ray and radium are self-evident though the extent to which these agents may be employed has only recently been realized. It is of course wrong to say that the

effects of radium emanations are purely man-made, they are rather man-processed—but the fact remains that man is responsible for the occurrence of radium diseases.

There remains one more factor and the last on which I propose to comment, namely, noise. One may be pardoned for introducing what appears to be such a commonplace and innocent phenomenon but there have been times in recent years when one had the opportunity to be most intimately concerned with the subject.

For some time now scientists have been able to measure accurately the volume of various noises, and to gauge the capacity of the human ear to absorb noise. I shall not burden you with figures in decibels but they are available in the library should you wish to consult them. A review of these figures yields what must be an anticipated conclusion, namely, that the normal human ear is capable of appreciating all the sounds which occur normally in nature and which possess a significant human relationship. Thus the imminent buzz of a mosquito and the roar of the thunder-clap are both appreciated and come within the range of normal human hearing.

But what of those noises, and they are all man-made, that exceed the decibel quantity of the thunder bolt? Man has devised noises greatly in excess of what his ears can normally tolerate—do these noises ever cause disease?

We may start with boiler maker's deafness, a condition admittedly the result of man-made noises and characterized by admitted anatomical changes in the inner ear. We must exclude however the burst eardrums so commonly met with in gunners in action. Incidentally to those of you who have witnessed the firing of a 21 gun salute from the grounds of the Parliament buildings in honour of the King's birthday, do not be misled by the magnitude of their croakings. They fire blank cartridges only, with no projectiles to lace their bark. Similar guns firing full weight projectiles with full or better still super charges can lift one's sternum open in trap door fashion, or so it seemed, and under such circumstances will produce the type of noise to which I have reference. What of the noise resulting from the explosion of a 3,600 lb. charge in a land mine, or the 24,000 lb. block busters of the R.A.F.? In decibel measurements, they exceed by as much as 1,000 times the capacity of the human ear to appreciate. The noise of their explosion represents a release of physical energy commensurate with their mass. The ear hears only a minute fraction of this energy—can the remainder be said therefore to exert no effect whatsoever on the human beings who are exposed? I think it just as unreasonable to depose that since only the visible wave lengths of sunlight are appreciated by the eyes, therefore the ultraviolet and infrared moities must be in-

nocuous to man. Of course, no one has yet proved that these imperceptible noises have caused disease but the theorem thereof has been beckoning attention.

I shall omit all reference to the evil noises that exude from bagpipes.

How come shellshock was so named? How come its occurrence is related in most instances to noises in excessive volume? I confess to be treading on the sacrosanct ground of the neuropsychiatrists here but have one verified pass to the arena of argument that seems to be valid, namely, the support of those very few mental physicians who actually accompanied troops into action. One does not deny the common underlying factor of emotional instability that precedes the development of most breakdowns. One does not deny the occurrence of similar breakdowns in the absence of disturbing noises but two points seem to be of importance, namely, many soldiers who did not crack were equally unstable emotionally, and any, and everyone, stable or otherwise, will crack if exposed for a sufficient length of time. One is not attempting to deny the defective personality as an etiological factor in shellshock but one does question its exclusive role. I am aware that some cases of so-called "exhaustion" became manifest in soldiers even before the individual had been exposed to noises of the magnitude to which I refer. But one cannot forget the oft repeated complaint voiced by many of the sufferers, namely, "It's the noise that bothers me, I can't stand it." On closer questioning, the noise complained of could be any noise, that of the enemy's guns or our own guns.

Now it appears to be firmly established that noise can kill. This has been substantiated repeatedly by animal experiment. Although the opportunities for extensive and meticulous autopsy examination were rare in the line, it is generally conceded by qualified observers that humans may die suddenly under circumstances where noise has been the only obvious likely cause. Should this proposition be acceptable, if you agree that noise may kill, why quibble about the theorem that noise may maim? True, the mechanism is a mystery but one ventures the suggestion that whatever the mechanism, it can scarcely be less obtuse or conjectural than the mechanism invoked by the psychiatrists to explain shellshock on the basis of a conflict within the ego.

Noise as a noxious agent has occupied the attention of those interested in the preventative aspect of industrial medicine. I suggest it deserves a wider study by the profession generally. The Germans were known to have experimented with noise beams for use as an anti-personnel weapon in the last war.

People exposed to unkindly noise effects display evidence of irritation, anxiety, languor, dis-

interest, etc. Should the noise be prolonged, the effect may become unbearable. It is the realization of these facts, coupled with the recollections of personal experience, that force me to recognize

the dangers of prolonging noise of the type that I am now creating to a pathological degree. I therefore hasten to conclude with a sincere expression of gratitude for your forbearance.

## Winnipeg Medical Society Committee Reports

### Secretary's Report

To the President and Members of  
The Winnipeg Medical Society:

The Winnipeg Medical Society has enjoyed a satisfactory year. This is especially so as far as the General Meetings of the members are concerned. The programmes have been of high quality and the large attendance at all the meetings indicates the interest of the members at large in the presentations. There have been 7 regular meetings and 3 special meetings. More than usual during this past session have been the number of outside speakers arranged by Dr. T. E. Holland. A new departure has been the use of Theatre "A" of the Medical College, in place of the Physiology Theatre, in order to provide accommodation for the larger number of doctors attending the meetings.

The Executive Council of the Society has met regularly and the business of the Society has been carried on efficiently by the President, Dr. C. E. Corrigan, and his associates. Although no momentous changes have occurred, nevertheless, there has been considerable routine work undertaken.

Respectfully submitted,

K. R. Trueman,  
Secretary.

### Treasurer's Report

To the President and Members,  
The Winnipeg Medical Society,

Dear Sirs:

We have audited the accounts of the Association for the period from 8th May, 1947, to 15th May, 1948, and submit herewith the following relative financial statements:

#### EXHIBITS:

"A" Balance Sheet as at 15th May, 1948.

"B" Statement of Receipts and Disbursements  
for the period ended 15th May, 1948.

The operations for the year, as set forth in Exhibit "B," have resulted in an excess of Receipts over Disbursements of \$2,508.47. Membership fees received are in accordance with duplicate receipts examined by us but are not subject to further verification. Receipts include \$300.00 from the Manitoba Medical Service, being the final refund on monies advanced to this Association in previous years. Expenditures have been sufficiently authorized and vouchered.

In accordance with the Minutes of 21st November, 1947, and subject to the Minutes of 15th May, 1948, the sum of \$1,200.00 has been placed in the Special Library Fund for the use of the Library Committee of the Faculty of Medicine. A statement of the transactions affecting this account during the period is also shown on Exhibit "B."

We obtained from the Bank of Toronto verification of the bank balances subject to allowances for outstanding cheques as shown by the books.

The Association's investments comprise the following issues of Dominion of Canada Bonds:

Par Value	Cost	Market Value
\$1,000.00 Dominion of Canada 3%, 1952, \$	987.50	\$1,019.00
1,000.00 Dominion of Canada 3%, 1957, 1,000.00	1,025.00	
\$2,000.00	\$1,987.50	\$2,044.00

These securities are lodged with the Bank of Toronto for safekeeping and are in accord with confirmation received from the Bank. All interest, on a received basis, has been duly accounted for on the books of the Association.

To the best of our knowledge and belief, all liabilities applicable to the period under review have been recorded on the books.

In conclusion, we wish to express our appreciation of the courtesies extended to us during the course of our work.

Yours very truly,

THORNTON, MILNE & CAMPBELL,  
Chartered Accountants.

Exhibit "A"

### Balance Sheet As at 15th May, 1948

#### ASSETS

Cash:	
On deposit with Bank of Toronto .....	\$1,744.11
Investments—At Cost:	
\$1,000.00 Dominion of Canada Bonds, 1952 — 3% .....	\$ 987.50
\$1,000.00 Dominion of Canada Bonds, 1957 — 3% .....	1,000.00
	1,987.50
Office Furniture and Equipment—Book Value .....	218.54
	\$3,950.15

#### Special Library Fund:

Cash:	
On deposit with Bank of Toronto .....	1,514.95
	\$5,465.10

#### LIABILITIES

Membership Fees Paid in Advance .....	\$ 5.00
Surplus:	
Balance as at 8th May, 1947 .....	\$2,636.68
Less:	
Appropriated for Library Fund .....	1,200.00
	\$1,436.68
Add:	
General Funds—Excess of Receipts over Disbursements .....	2,508.47
	3,945.15
	\$3,950.15

#### Special Library Fund Reserve:

Surplus:	
Unexpended Balance, 8th May, 1947 ...	\$ 516.71
Add:	
Excess of Receipts over Disbursements .....	998.24
	1,514.95
	\$5,465.10

## Exhibit "B"

**Statements of Receipts and Disbursements  
For the period ended 15th May, 1948**

**RECEIPTS**

## General Funds:

Annual Dues:	
Active Members .....	\$3,395.00
Associate Members .....	38.00
Payment of Arrears .....	113.00
	<hr/>
	\$3,546.00
Bond Interest .....	60.00
Bank Interest .....	1.86
Manitoba Medical Service—	
Refund of advance .....	300.00
	<hr/>
	\$3,907.86

**DISBURSEMENTS**

## General Funds:

Salaries—Secretarial Services, Manitoba	
Medical Association .....	\$ 955.00
Printing, Stationery and Postage .....	234.19
Catering .....	87.84
Telephone .....	42.55
Lantern Expense .....	29.00
Audit Fees .....	25.00
Donations .....	2.00
General Expense .....	23.81
	<hr/>
	1,399.39

Excess of Receipts over Disbursements ..... \$2,508.47

**Library Fund**

**RECEIPTS**

Appropriated from General Surplus .....	\$1,200.00
Bank Interest .....	4.74
	<hr/>
	\$1,204.74

**DISBURSEMENTS**

Books Purchased—Colcleugh and Co. ....	206.50
	<hr/>
Excess of Receipts over Disbursements .....	\$ 998.24

**Trustee's Report**

*To the President and Members of  
The Winnipeg Medical Society:*

As Senior Trustee, I wish to report the following securities as being held in Safety Deposit Box, Bank of Toronto, 394 Portage Avenue:

Dominion of Canada Bond, 3%, due 1st October, 1952, \$1,000.00; Dominion of Canada Bond, 3%, due 1st May, 1952, \$1,000.00; Balance in Savings Account, Bank of Toronto, May 15th, 1948, \$1,744.11.

The aforesaid Bonds and Bank Deposit have been vouched for in the Auditors' Report.

I have personally inspected the office equipment of the Society at 604 Medical Arts Building, the equipment in the Manitoba Medical College in the custody of the Caretaker, and Lantern in care of Mr. Gordon Axtell, and found them to be as listed herein:

Office Equipment at 604 Medical Arts Building—1 Steel Filing Cabinet, 3 drawers; Half Interest in Elliott Addressing Machine; Half Interest in Speedoprint Duplicator and Equipment; Third Interest in Underwood Typewriter, 14" Carriage, Serial No. 5732553-14; Third Interest in "Copyright" Holder.

Equipment in Manitoba Medical College in custody of Caretaker—12 Wooden Chairs; 4 Wooden Trestles and 2 Wooden Table Tops for same; 1 Cupboard; 1 Gavel, this Gavel made from wood from the ruins of the Royal College of Surgeons and presented to the Winnipeg Medical Society by

Dr. John C. Hossack; 1 Plaque, Honour Roll of Past Presidents (in Physiology Lecture Room of the Medical College), book value \$218.64; 1 Screen for Lantern Slides, fastened on wall of Theatre "A" of Medical College, donated by Dr. A. M. Goodwin.

In care of Mr. Gordon Axtell—1 Delinescope Lantern, Model OJR, No. 3647, made by Spencer Wells Co. of Buffalo, New York, and one spare bulb for same.

Respectfully submitted.

*Donalda M. H. Huggins,  
Senior Trustee.*

**Membership Committee**

*To the President and Members of  
The Winnipeg Medical Society:*

The present total membership of the Winnipeg Medical Society is 464. Of this number 18 are Honorary members and 2 are Non-active, leaving a total of 444 contributing members. At the close of the 1946-47 season, there were 504 members on the list, of which only 220 were contributing members, the remainder being Associate, Honorary, or Complimentary (returned from the Armed Forces). Of the last year's membership, 49 have since left the city, and 7 are deceased, leaving a residue of 448. During the 1947-48 season 16 new members joined our Society, bringing the total to the above-mentioned figure of 464. These figures show a total decrease in membership during the present season of 40 members, but an increase in contributing active members of 224.

The real increase in membership is most gratifying, and we are now within reach of a membership consisting of 100% of the physicians in Winnipeg.

Respectfully submitted.

*D. M. Bruser,  
Chairman.*

**Library Committee**

*To the President and Members of  
The Winnipeg Medical Society:*

The Medical Library in its cramped quarters has had an exceptionally busy year. It is hoped that the congestion will be relieved to some extent when the new stack-room, just completed, is occupied. This additional space will care for approximately 10,000 more volumes. The hope for a new and separate library building in the future, must not however be abandoned.

The year 1947-48 showed the largest number on record of Winnipeg physicians who were registered borrowers from the library. There were 259 or 51 per cent of the 505 city doctors. This was an increase in actual numbers of 60, but curiously the percentage of Winnipeg doctors using the library remains approximately the same from year to year, i.e. 45 to 51 per cent, most often 50 per cent. The percentage should be considerably higher. The library is open on week days throughout the year, and books or periodicals may be borrowed without cost. A physician who does not read professional literature will soon find himself hopelessly outdated, and the present high cost of books is against private ownership of a large library.

Loans to Winnipeg physicians were—Books, 1,168; Journals, 3,904; a total of 5,972 items or nearly 47 per cent of all loans, a very slight decrease from 1946-47.

Reference requests, i.e., requests for information on a particular subject were almost equally divided between Faculty of Research departments, 55 requests, and Winnipeg physicians, 53 requests.

The Library Committee welcomes suggestions for books or periodicals to be added to the Library. These suggestions are reviewed at meetings of the Library Committee.

Volumes added by purchase through the Winnipeg Medical Society library fund were: Books 41, Bindings 2; total of 43 volumes or 13.43 per cent of the 320 works purchased. This



is an increase of 16 volumes over the 27 items purchased in the previous year through the generosity of the Winnipeg Medical Society.

The number of books purchased on all funds shows an increase of 29 volumes or nearly 10 per cent over 1946-47.

The library now has 16,093 volumes, including books and first files of journals, bound and unbound.

Journals and serials received by subscription on all funds number 222, an increase of 33 titles. The total annual cost of these journals and serials is \$1,914.23. Of this amount \$1,773.61 is paid by the University and \$140.62 by the special funds.

At the April meeting of the Library Committee books and bindings were passed for purchase on the Winnipeg Medical Society library fund at the estimated cost of \$1,200.00. This will leave an estimated free balance of \$100.00 in the fund.

Respectfully submitted.

Ross Mitchell,  
Chairman.

### Benevolent Fund

To the President and Members of  
The Winnipeg Medical Society:

I beg to submit the Treasurer's Report for the year May, 1947, to May 21, 1948, inc.

Contributions were received from nine members, and amounted to \$1,125.00.

All contributions were by cheque payable to the order of the Winnipeg Medical Society Benevolent Fund, and were deposited in the Bank of Toronto, 394 Portage Avenue, Winnipeg.

Receipts were issued to each contributor, and these will be honored by the Dominion Income Tax Division for deduction purpose.

Disbursements from this fund amounted to \$500.00. These were made by cheque, and signed by Dr. Ross Mitchell as chairman, and myself as treasurer.

The bank balance is \$625.00.

Respectfully submitted.

P. H. McNulty,  
Treasurer.

### Standing Legislative Committee

To the President and Members of  
The Winnipeg Medical Society:

No meetings of the Committee, as such, were held during the past year.

A meeting was attended 26th February, 1948, at which the Deputy Minister of Health met the Committee of 15 and outlined and discussed proposed changes in medical legislation.

Considerable attention was paid to the recent session of the Legislature with particular reference to private Bills to be introduced.

#### CHANGES IN EXISTING MEDICAL LEGISLATION

1. *An Act to Amend the Tuberculosis Control Act.*  
This repealed the establishment of the Tuberculosis Control Commission and transferred the powers of the Commission back to the Sanatorium Board of Manitoba.
2. *An Act to Amend the Health Services Act.*  
These changes were generally administrative and were not considered to be controversial.
3. *An Act to Amend the Vital Statistics Act.*  
Minor changes were made regarding the recording of children either adopted, or registered as legitimate.
4. *An Act to Amend the Health and Public Welfare Act.*  
19 separate acts as listed, and all matters dealing with the regulations made under any of these Acts were to be under the control of the Minister.
  1. "The Anatomy Act."
  2. "The Basic Sciences Act."
  3. "The Cancer Relief Act."

4. "The Child Welfare Act."
5. "The Frozen Food Locker Plant Act."
6. "The Health Services Act."
7. "The Hospital Aid Act."
8. "The Licensed Practical Nurses Act."
9. "The Lunacy Act."
10. "The Marriage Act."
11. "The Mental Deficiency Act."
12. "The Mental Diseases Act."
13. "The Old Age and Blind Persons' Pensions Act."
14. "The Manitoba Physical Fitness Act."
15. "The Private Hospitals Act."
16. "The Public Health Act."
17. "The St. Boniface Home for the Aged and Infirm Act."
18. "The Tuberculosis Control Act."
19. "The Vital Statistics Act."

#### 5. *An Act to Amend the Hospital Aid Act.*

These amendments provide that the rates in respect of public ward patients and babies shall be fixed by Order-in-Council in place of such rates being fixed in the statute as at present.

#### 6. *An Act to Amend the Marriage Act.*

This merely alters the regulations regarding a non-resident who desires to be married in Manitoba and who produces a report of a serological test from an approved laboratory.

Two private bills were apparently due to come up although at the time of our meeting with the Deputy Minister, no information was available.

The first was a Bill for the licensing of optometrists. This was subsequently dropped.

The second Bill, an Act respecting the practice of physiotherapy and massage, was introduced by Mr. Turner and received first reading. This Act was patterned after a similar Act in British Columbia, but differed in the one important phase in that no reference was made to the practice of physiotherapy and massage under the advice or guidance of the medical profession.

Certain representations were made by licensed physiotherapists in Winnipeg, and on Thursday, the 18th of March, this Bill was withdrawn.

Respectfully submitted.

Ross H. Cooper,  
Chairman.

### Programme Committee

To the President and Members of  
The Winnipeg Medical Society:

The Winnipeg Medical Society has held ten meetings during the season now ending. Three of these meetings were special meetings arranged to meet the convenience of outside speakers.

The arrangement for special meetings on other than our regular meeting nights has occasionally disrupted our normal schedule and your Committee wishes to apologize for any inconvenience caused to members who have been accustomed to attending meetings on the third Friday of each month.

We have been privileged to hear addresses from four outside speakers in all. These speakers and their subjects were as follows:

1. Mr. Frank Smith, Director of Associated Medical Care Plans, Chicago, who spoke on "Prepaid Medical Care Plans in the United States."
2. Dr. A. J. Rhodes, Director of Virus Research, and Associate Director of the Connaught Laboratories, University of Toronto, whose subject was "Newer Knowledge of Virus Diseases."
3. Dr. E. P. McCullagh, Director of Department of Endocrinology, Cleveland Clinic, who spoke on "Climacteric—Male and Female."
4. Dr. Max Wintrobe, Professor of Medicine, University of Utah, Salt Lake City, who spoke on "The Studies of the Pathogenesis of the Anemia of Infection."

The latter two speakers are graduates of our own Medical School, each of whom has attained fame in his own special field.

The rest of our meetings have been addressed by our own members, numbering 23 in all, and your Committee wishes to express its appreciation of the co-operation and willingness of these members in preparing papers of a very high calibre.

A number of other members who had arranged to deliver papers were unable to do so on account of the number of special meetings held, which deranged our schedule. These members very kindly consented to defer their papers and their names will be passed on to the Programme Committee for next year.

An innovation carried out this year was a demonstration of the changes in the Medical College, both in methods of teaching and in the re-building of many departments, and we feel that our "Medical College Night" was a distinct success.

Our meetings this year have embraced a wide variety of subjects, and the papers have been given, for the most part, by Specialists. It is hoped, with the recent organization of a General Practitioners' Section, that more papers will be given by General Practitioners on subjects of interest to General Practitioners, who comprise the largest part of our Society.

Mr. President, our meetings have been well attended this year, and your Committee wishes to thank, not only those who have given very interesting papers, but also the membership at large who have attended these meetings and provided very excellent discussion.

Respectfully submitted.

*T. E. Holland,*  
Chairman.

### Representative to the Council of Social Agencies

*To the President and Members of  
The Winnipeg Medical Society:*

As the representative of the Winnipeg Medical Society, I attended two meetings of the Council of Social Agencies. Other meetings held were not attended due to previously arranged appointments.

At one meeting a general discussion of child welfare was held. At the second meeting Dr. Coppinger from the General Hospital and Dr. Grant of Children's Hospital presented papers discussing the hospital bed situation in the city. They emphasized the urgency of increasing accommodation at a very early date. In the discussion which followed it was evident that those present were well aware of the need and it was urged that the municipal, provincial and federal governments be made aware of the situation and action be taken by them.

Respectfully submitted.

*J. H. Skaling,*  
Representative.

### Eye, Ear, Nose and Throat Section

*To the President and Members of  
The Winnipeg Medical Society:*

The Eye, Ear, Nose and Throat Section of this Society has held five meetings during the past year.

At the first meeting a film from the National Film Board, entitled "Education of the Deaf," was shown. This instructive film produced much interesting discussion. Afterwards Doctors Pierce and Ramsay gave an account of the American Academy of Ophthalmology and Otolaryngology Annual Meeting held in Chicago in October, 1947.

The second meeting was held in the Board Room of the Winnipeg General Hospital at which Dr. M. M. Pierce presented a very interesting paper on Rhinoplasty with many illustrative case reports and photographs.

The third meeting was held at the Medical Arts Club Rooms. Following an enjoyable dinner Dr. Joseph A. Sullivan of Toronto presented an interesting paper on "The Facial Nerve." The paper was well discussed by Doctors Turnbull, Washington, Black and McKenty.

The fourth meeting was held in February at the Medical Arts Club Rooms. Dr. I. H. Beckman presented a case of Retinal separation and Dr. R. M. Ramsay presented three cases of Corectopia with Ectopia lentis in one family.

The fifth meeting was in the form of a dinner held at the Medical Arts Club Rooms in March.

The guest speaker, Doctor Lennox Bell, presented an excellent paper on Diabetes Mellitus with particular reference to the ocular complications. This paper was considered to be one of the best this Section has had the privilege of hearing. It provoked much discussion by all those present.

A sixth meeting is to be held towards the end of May, 1948, at which time a review of the past year's activities will be made, officers elected, and plans for the coming year discussed.

Respectfully submitted.

*R. M. Ramsay,*  
Chairman.

### Obstetrics and Gynecology

*To the President and Members of  
The Winnipeg Medical Society:*

The Section of Obstetrics and Gynecology of the Winnipeg Medical Society held four meetings during the year. The final meeting being held in the form of a dinner meeting.

The Subjects discussed during the year were:

Induction of Labour—Dr. H. Guyot.  
Endometriosis—Dr. B. D. Best.  
Sterility—Dr. C. K. Bleeks, Dr. D. Swartz, Dr. C. B. Stewart.  
Symposium on Anaesthesia in Obstetrics—Dr. D. Huggins, Dr.

D. C. Aikenhead, Dr. H. H. Hutchinson.

The average attendance per meeting was twenty-two. The subjects were very well discussed by the members present.

The following were elected as Officers for the year 1948-49:

Chairman	Dr. H. Guyot
Secretary	Dr. W. J. McCord
Councillor	Dr. A. W. Anderson

Respectfully submitted.

*Rubin Lyons,*  
Chairman.  
*Henry Guvot,*  
Secretary.

### Anaesthesiology

*To the President and Members of  
The Winnipeg Medical Society:*

The Anaesthetic Section of the Winnipeg Medical Society has held eight meetings during the past Academic year, with a June meeting still to be held.

Meetings have taken the form of a dinner at the Medical Arts Club Rooms followed by a Scientific Program and discussion. Several films on Anaesthesia have been shown. The Section has eighteen members and the officers are:

Dr. R. Letienne	President
Dr. M. Bennett	Secretary

The Section also comprises the Winnipeg Anaesthetists' Society, and the Manitoba Division of the Canadian Anaesthetists' Society.

Respectfully submitted.

*M. R. Bennett*  
Chairman.

## SOCIAL NEWS

Reported by K. Borthwick-Leslie, M.D.

"Eleven Men and a Scalpel." Congratulations to Dr. John Hillsman and also welcome back to the Medical Arts to John. I'm not sure which I enjoy most, picking up and rereading his most attractive entertaining "human" little book or being able to call on John at a minutes notice for surgical help or army reminiscing over a cup of coffee.

It is with regret that members of Grace Hospital Staff bade farewell to Dr. F. A. Benner as Medical Superintendent. At a most enjoyable farewell dinner at the Royal Alexandra Hotel he was presented with a "Purse" and sincere good wishes for the future.

Congratulations to Dr. Hugh McGavin—What an inspiration to all medical men, and particularly to us General Practitioners to have one of us so respected, appreciated and loved, that a whole community with its neighbors takes a day to celebrate in his honor—Thursday the "Dr. Hugh McGavin Day" in Plum Coulee, where he has been practising for 46 years.

Congratulations too, to Dr. and Mrs. H. G. Pickard who on June 22nd celebrated their 50th Wedding Anniversary. Since Dr. Harry took over his father's practice in Oxbow, Saskatchewan, the grandparents retired to Wildwood Park, Winnipeg, where they are able to keep an eye on Dr. Edgar and his "juniors."

It's rather early to report on C.M.A. doings, but I'm going to miss having Dr. F. G. McGuinness as President. I used to have fun trying to keep up to his activities. Congratulations to Dr. W. A. Gardner on being appointed as a Senior Member of the C.M.A.

By all reports Drs. Houston and W. MacLeod had a glorious time, "doing" Gastroenterology, Clinical Investigations, Psychosomatics, etc., en route of "doing" Chicago, Washington, Baltimore, Atlantic City, Boston, Montreal, Toronto and all points home.

Our sincere sympathy to Dr. Leishman, family and friends, on the loss of Mrs. Leishman who died June 20.

All students and members of the Profession will sadly miss Dr. Harold Rice, head of the Physiology Department. Good luck, Dr. Rice, in your new post in Edmonton.

June 7, 1948, in the Vice Regal Suite of the Royal Alexandra Hotel, marriage vows were exchanged between Vaun Lorraine Black and Dr. Leon Rubin. Following their wedding trip to Minneapolis, the young couple will reside in Rivers, Manitoba.

Congratulations to Dr. C. C. Ferguson, Gold medalist, Manitoba, 1945, now completing P.G. work in Montreal, who has received a fellowship at the Harrison Department of Surgical Research, University of Pennsylvania.

Another old timer, after fifty years of service to the Plumas district, Dr. A. B. Stewart was honored by the townspeople, and presented with a purse of money. He is retiring to a well earned rest, living with his daughter, Mrs. S. Tibbatts.

Dr. Elizabeth Matheson (Queen's, '87) San Antonio, Texas, spent a few days in Winnipeg, renewing acquaintances en route to Toronto where she will attend the C.M.A. Convention, particularly the '98 to '48 Medical Women's Reunion Dinner. She is to be the recipient of an Honorary Degree at the Convocation Exercises, June 25, 1948. Dr. Ellen Douglass entertained at the Ralph Connor House, June 15, in honor of Dr. Matheson.

Among the multitudinous M.D.'s who are travelling this month are: Dr. and Mrs. W. J. Elliott, to Chicago, where they attend the A.M.A. meeting prior to that of the C.M.A. in Toronto; Dr. and Mrs. R. M. Ramsay, to Thousand Islands, New York, to attend the Canadian Ophthalmologists Convention, prior to the Toronto C.M.A. meeting; Dr. and Mrs. Quentin Jacks, to Ottawa and Eastern points prior to the C.M.A., where we hope he puts in that extra punch for the O.G.P.U. But more of C.M.A. to come!

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## COLLEGE OF PHYSICIANS AND SURGEONS OF MANITOBA

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(Continued From June Issue)

**(c) Canadian Association of Medical Students and Internes.**

A letter was presented from the Canadian Association of Medical Students and Internes, stating that they have instituted a summer employment service for the medical students of Canada, the object of which is to provide the student with a summer position which will be supplemental to his formal education. The Association, in the letter, requested suggestions as to how they could further present their plan to the practising physician. It stated that the Canadian Medical Association and the Canadian Hospital Association had aided them in the presentation of their scheme, and referred to articles which will appear in the February issue of their respective Journals.

The Registrar reported that a similar communication was received by the Manitoba Medical Association, and copies of the communication had been posted in the hospitals and medical buildings.

Dr. \_\_\_\_\_ suggested that CAMSI approach the D.V.A. He stated that at present he had no power to employ anyone unless there was a permanent vacancy.

The Registrar was instructed to communicate with the Canadian Association of Medical Students and Internes and suggest that they contact the Department of Veterans Affairs, requesting that they allow the students and internes to work for the summer months.

**(d) Registrar, Medical Council of Canada.**

The Registrar presented a letter, dated February 5, 1948, enclosing a letter, dated November 28, 1947, from the Chairman of the Education Committee of the Medical Council of Canada, requesting comments.

Dr. Hepburn's letter dealt with the question of each provincial medical board demanding an interne year, and the question of coincidental examinations. Dr. Argue stated in his letter, that coincidental examinations had been used since 1941 by the Faculties of Medicine of Queen's, Toronto, Western Ontario and the University of Manitoba, and had been entirely satisfactory. He stated that there was a strong feeling that an interne year should form part of the medical course of each university. Dr. Argue thought that each university should include an internship year before graduation, and that the internship should be in specially supervised hospitals, and refresher lectures should be given to the class because some of the candidates state they get more or less rusty in some subjects if they have no refreshers between the

completion of their didactic course and their final internship.

Dr. \_\_\_\_\_ stated that the only trouble with the coincidental examinations was that the medical schools did not hold their examinations at the same time. He stated that the Medical Council of Canada sets the papers. They are first read by the examiners appointed by each university, and if they pass the candidate, the papers are sent to Ottawa where the Medical Council of Canada examiners read them. Usually the university requires 50% and the Medical Council of Canada requires 60%. The Medical Council of Canada do not read any papers unless the university pass the student. He stated that the system had worked very well in Manitoba because the dates coincide with those of the Medical Council of Canada, and the coincidental examinations are a great labor-saver to the student.

The Registrar stated that in connection with the internship year, Alberta had notified all provinces that they would not issue enabling certificates to any graduate who did not have an interne year.

The matter was referred to the May meeting of Council.

**(e) Registrar, General Medical Council of Great Britain.**

The Registrar stated that among those applications received from graduates of European schools, there were applications from Polish doctors who were registered temporarily on the Foreign List of the General Medical Council. He stated that he wrote to Dr. Heseltine inquiring whether these doctors had applied for permanent registration under the Polish Resettlement Act. He stated that four out of the five doctors inquired about had applied for registration under the Medical Practitioners and Pharmacists Act, 1947. The fifth was registered, and was therefore entitled to benefit by the reciprocal relations. Dr. Heseltine also advised that the word "Commonwealth" had been substituted for "Colonial," in the British Medical Act.

**(f) University of Western Ontario.**

The Registrar presented a letter, dated January 31, 1948, from the Librarian of the University of Western Ontario, requesting a list of any Canadian medical lectureships of a memorial character or otherwise that may have been delivered annually in this College, or at Association meetings.

The Registrar was instructed to advise the Librarian of the Faculty of Medicine, University of Western Ontario, that the only known lecture-

ships in Manitoba were The David Stewart Memorial Lecture, with the Faculty of Medicine, University of Manitoba, and the Gordon Bell Memorial Lecture, with the Winnipeg Medical Society.

#### 17. Representative to the Registrar's Meeting.

The Registrar advised that at the last meeting of the Registrars, held in Winnipeg in June, 1947, it was agreed to hold a further meeting in June, 1948, in Toronto.

The following resolution was approved: "That Dr. M. T. Macfarland be appointed as the representative from the College of Physicians and Surgeons of Manitoba to the Registrar's Meeting, to be held in Toronto in June, 1948."

#### 18. Date of May Meeting.

It was agreed that the May meeting of the Council be held on Convocation Day, May 12, 1948.

#### February 26, 1948 — Registration Committee

Temporary Licences granted: Dr. Edwin Wilson McLachlan Howes, B.A., University of Toronto, 1937; M.D., University of Toronto, 1940; L.M.C.C., 1940. Dr. Ruth McDougall, B.A., McGill University, 1944; M.D., C.M., McGill University, 1945; L.M.C.C., 1946. Dr. Ian Hay Brown, M.B., Ch.B., University of Glasgow, 1947.

Enabling Certificate granted: Dr. Alexis Peter Bokovoy, B.A., Walla Walla College, Washington, 1945; M.D., College of Medical Evangelists, 1945; D.N.B., 1946.

#### April 21, 1948 — Registration Committee

Enabling Certificates granted: Dr. Martha June Gardner, B.A., Pacific Union College, California,

1941; M.D., College of Medical Evangelists, 1945; D.N.B., 1945. Dr. Thomas Arthur Horsley, B.A., Walla Walla College, Washington, 1945; M.D., College of Medical Evangelists, 1945; D.N.B., 1945. Dr. Cyril Fitz-James Turney, M.D., Meharry Medical College, Tennessee, 1918. Dr. Albert William Kroll, M.D., College of Medical Evangelists, 1947; D.N.B., 1947.

Registration granted: Dr. Michael Duggan, M.R.C.S., England, 1944; L.R.C.P., London, 1944. Dr. Frederick Philip Hulke, M.R.C.S., England, 1943; L.R.C.P., London, 1943.

Registration Approved: Dr. Michael Strachan, M.R.C.S., England, 1940; L.R.C.P., London, 1940. Dr. John Edward Cockburn Morton, M.R.C.S., England, 1926; L.R.C.P., London, 1926; L.M.C.C., 1939.

Temporary Licences granted: Dr. John Hewson Lindsay, M.D., University of Western Ontario, 1943; L.M.C.C., 1943. Captain James Stuart Hitsman, M.D., C.M., Queen's University, 1943; L.M.C.C., 1943.

#### May 10, 1948 — Registration Committee

Enabling Certificate granted: Dr. George White Allen, B.Sc., Walla Walla College, Washington, 1936; M.D., College of Medical Evangelists, 1942; D.N.B., 1942. Registration was granted to four graduates of the University of Manitoba.

The Committee reviewed correspondence received from several doctors who have not yet complied with the requirements of the Medical Act. This matter will be discussed further by Council.

(To Be Continued)

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## SOCIAL NEWS

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On June 15 at Westminster Church, marriage vows were taken by Miss Margaret McInnes, daughter of Dr. and Mrs. J. S. McInnes, and Mr. J. Larson of Denver, Colorado. The honeymoon is to be in Eastern Canada and States, en route to Denver, where the young couple will reside.

In Knox Church, June 18, the wedding was solemnized of Miss Betty McAlister and Dr. David Aikenhead, son of Dr. and Mrs. D. Aikenhead. The young couple plan to spend some time at Falcon Lake, then to Grand Beach where David will be the M.D. until September, when they plan on England—Hammersmith, where David will P.G. in Cardiology. Good Luck !!

**Department of Health and Public Welfare**  
**Comparisons Communicable Diseases — Manitoba (Whites and Indians)**

DISEASES	1948		1947		TOTALS	
	Apr. 18 to May 15, '48	Mar. 21 to Apr. 17, '48	Apr. 20 to May 17, '47	Mar. 23 to Apr. 19, '47	Dec. 28, '47 to May 15, '48	Dec. 29, '46 to May 17, '47
Anterior Poliomyelitis	0	0	0	0	3	0
Chickenpox	227	233	80	70	1145	460
Diphtheria	2	1	8	11	8	49
Diphtheria Carriers	0	0	4	2	0	13
Dysentery—Amoebic	1	0	0	0	1	0
Dysentery—Bacillary	0	0	0	0	0	0
Erysipelas	7	1	6	3	13	22
Encephalitis	0	0	0	0	0	1
Influenza	64	19	16	24	101	115
Measles	43	29	966	1197	151	5526
Measles—German	6	1	9	3	29	28
Meningococcal Meningitis	2	2	1	2	7	9
Mumps	216	200	115	190	904	1014
Ophthalmia Neonatorum	0	0	0	0	0	0
Pneumonia—Lobar	24	18	19	28	78	115
Puerperal Fever	1	0	0	1	1	3
Scarlet Fever	59	5	23	14	94	104
Septic Sore Throat	3	3	1	0	12	9
Smallpox	0	0	0	0	0	0
Tetanus	0	0	0	0	0	1
Trachoma	0	0	0	0	0	2
Tuberculosis	135	70	164	102	451	480
Typhoid Fever	0	1	1	0	2	1
Typhoid Paratyphoid	0	0	0	0	0	0
Typhoid Carriers	0	0	0	0	0	1
Undulant Fever	2	0	0	0	2	3
Whooping Cough	22	29	192	110	174	554
Gonorrhoea	119	113	104	151	578	750
Syphilis	36	47	44	48	208	212
Diarrhoea and Enteritis, under 1 yr.	20	27	16	10	68	63

## FOUR-WEEK PERIOD, APRIL 18 TO MAY 15, 1948

DISEASES (White Cases Only)	*743,000 Manitoba	*906,000 Saskatchewan	*3,825,000 Ontario	*2,982,000 Minnesota
Anterior Poliomyelitis	1	4	2	
Chickenpox	227	79	1347	
Diarrhoea and Enteritis	20			
Diphtheria	2	3	10	12
Dysentery, Amoebic	1			1
Dysentery, Bacillary			1	2
Erysipelas	7		9	
Infectious Jaundice			2	
Influenza	64		36	1
Malaria				5
Measles	43	24	4578	2311
Measles, German	6	11	67	
Meningococcal Meningitis	2		3	7
Mumps	216	316	1175	
Pneumonia, Lobar	24			
Puerperal Fever	1	1		
Scarlet Fever	59	2	294	131
Septic Sore Throat	3		2	
Tuberculosis	135	43	159	397
Typhoid Fever		1		2
Typh. Para-Typhoid		1	1	
Undulant Fever	2	4	4	21
Whooping Cough	22	6	51	34
Gonorrhoea	119		286	
Syphilis	36		208	

\* Approximate population.

## DEATHS FROM REPORTABLE DISEASES

## For Four-Week Period, April 20 to May 18, 1948

**Urban**—Cancer, 42; Diphtheria, 1; Influenza, 2; Lethargic Encephalitis, 1; Pneumonia Lobar (108, 107, 109), 3; Pneumonia (other forms), 3; Syphilis, 3; Tuberculosis, 3; Diarrhoea and Enteritis, 1; Disease of Pharynx and Tonsils, 1; Tetanus, 1; Cerebrospinal Meningitis (meningococcus), 1; Septicemia (non puerperal), 1. Other deaths under 1 year, 9. Other deaths over 1 year, 190. Stillbirths, 9. Total, 208.

**Rural**—Cancer, 24; Influenza, 2; Measles, 1; Pneumonia Lobar (108, 107, 109), 5; Pneumonia (other forms), 7; Tuberculosis, 16; Chickenpox, 1; Diarrhoea and Enteritis, 10. Other deaths under 1 year, 14. Other deaths over 1 year, 136. Stillbirths, 11. Total, 161.

**Indians**—Influenza, 1; Pneumonia Lobar (108, 107, 109), 1; Pneumonia (other forms), 2; Syphilis, 1; Tuberculosis, 6. Other deaths under 1 year, 4. Other deaths over 1 year, 9. Stillbirths, 1. Total, 14.

**Chickenpox and Mumps** are still quite prevalent in Manitoba and both are difficult to control. Excepting for these two diseases the incidence of communicable diseases is running less than usual.

**Poliomyelitis and Tonsillectomy** do not go well together! Summer holidays has for many years been the chosen time for T and A operations but in view of the increased danger of bulbar cases of Poliomyelitis in Tonsillectomized children it might be wise to postpone such operations until later in the year. We do not expect another epidemic of polio in 1948 but one never knows for sure.



The **ORTHO ESSENTIAL SET** now contains a clinical size trial package of Ortho-Creme Vaginal Cream, in addition to the full size tube of Ortho-Gynol Vaginal Jelly; the Ortho Diaphragm, and the Ortho Introducer. By enabling your patient to choose which of these two equally effective products she prefers . . . the jelly or the cream . . . you make more certain a continuance of the method you have prescribed.

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## Announcement Regarding Biologics

Department of Health and Public Welfare, Province of Manitoba

In the September, 1947, issue of the Review it was announced that the Connaught Medical Research Laboratories had made available pertussis vaccine and also pertussis vaccine combined with diphtheria toxoid in a new one cubic centimeter size of dose. These products are given in four doses of one c.c. each. The first three doses are given four weeks apart and the fourth dose three months after the third dose. Reinforcing doses of one c.c. each should be given one year later and again eighteen months after that.

Up to August 1st, 1948, Connaughts are continuing to also supply the old three dose material (2 c.c. per dose) but as the new material has proved

to be most satisfactory they have announced that after August first they will supply only the new four x one c.c. dose pertussis vaccine and pertussis vaccine combined with diphtheria toxoid. Please take note of this fact when ordering. Both of these biologics are put up in one-person and nine-person size packages, and are available free of cost to physicians in Manitoba by order from the Department of Health and Public Welfare.

The scarlet fever streptococcus toxin (tannic acid precipitated) for intradermal immunization against scarlet fever has not proved to be quite satisfactory so has been withdrawn from the market.

## Bathers, Beware Swimmer's Itch

With the swimming season opening, the Manitoba Department of Health and Public Welfare issue a warning about "swimmer's itch," that annoying complaint that shows up almost every summer in various lakes and streams around the province.

"Swimmer's itch" is caused by a little fork-tailed parasite. The organism is known as a cercaria. It is about one millimeter long, just barely visible to the unaided eye. Cercariae are spread by a certain species of snail that inhabits sandy beaches and shallow weed beds in lakes and streams. A single infested snail may produce thousands of cercariae every day for several weeks.

Usually the daily "crop" of cercariae leaves the snail in the early morning and swims away toward the light. In a heavily infested spot, myriads of these little fork-tails will be swimming in the surface water over snail beds, with the highest concentrations occurring during the afternoon hours, most popular with bathers. The cercariae must find a suitable host within a few hours or perish. An unwary swimmer will serve the purpose. After penetrating the skin, the cercariae burrow a short distance, die, and are

gradually absorbed. This process causes a rash that remains only a short time, but is exasperating while it lasts.

Copper salts spread in the water over limited areas, may be used in controlling this parasite but should not be used indiscriminately, because they are dangerous to fish and other aquatic life as well as to cercariae.

Another method of controlling the nuisance is to remove all vegetation and snails by hand-picking around the beach. Swimmers may often avoid getting the "itch" by rubbing themselves vigorously with a coarse towel immediately after leaving the water. Persons wishing to clear up a beach by the use of copper salts should ask for advice and assistance from the Department of Health and Public Welfare.

### REMEMBER

**Winnipeg Medical Society  
BENEVOLENT FUND**  
Subscriptions Deductible From  
Income Tax

### Society of Hematology Meeting

The International Society of Hematology will hold its bi-annual meeting at the Hotel Statler, in Buffalo, New York, August 23-26, 1948.

The following time has been tentatively allotted for symposia and presentations: half day on general subjects, including radio-active and stable isotopes in hematology, half day for problems and diseases related to the red cells, half day for problems and diseases related to white cells, one day for immuno-hematology, Rh-Hr (CDE-cde) antigens and antibodies, and hemolytic anemias, half day for coagulation problems and hemorrhagic diseases and half day for business meeting.

Scientific exhibits will be presented in the south wing of the 17th floor of Hotel Statler. Applications for the presentation of scientific exhibits are now being received by Dr. O. P. Jones, Department of Anatomy, University of Buffalo, Buffalo, New York. Chairman of the Programme Committee is Dr. Ernest Witebsky, Buffalo General Hospital, Buffalo, New York.

Dr. Eduardo Uribe Guerola, Leibnitz No. 212, Nueva Colonial Anzures, Mexico, D.F., is in charge

of the programme from South and Central America and Sir Lionel Whitby, University of Cambridge, Cambridge, England, is in charge of arrangements for the programme from Europe. Communications concerning applications for the programme will be received by the above named committeemen.

All scientific sessions and exhibits will be open to scientists interested in hematology. This will, of course, include members of the medical profession and those branches of science dealing with hematology, such as biochemistry, biophysics, genetics, immunology, etc.

Communications and applications concerning membership will be received by the following members of the membership committee.

Dr. William Dameshek, Chairman, 25 Bennett St., Boston, Mass., for U.S.A.

Dr. Theodore Waugh, McGill University, Montreal, Quebec.

Those interested in attending the meeting may communicate with Dr. Sol Haberman, Secretary, The William Buchanan Blood Centre, Baylor Hospital, Dallas, Texas.



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